Service Manual

Technics
HI-FI COMPONENTS
Technics

CD-4 FM/AM
4 CHANNEL/2 CHANNEL RECEIVER

MODEL SA-8000X

TECHNICAL SPECIFICATIONS (IHF) Specifications are subject to change without notice for further improvement.

AUDIO SECTION

Music power:		
4 CH operation		160W (4Ω)
2 CH Balanced Transformerless operation		160W (8Ω)
1 kHz RMS (continuous) power:		
4 CH operation (Each ch. driven)		30W/30W/30W/30W (4Ω)
		22W/22W/22W/22W (8Ω)
(All ch. driven)		18W+18W+18W+18W (4Ω)
		16W+16W+16W+16W (8Ω)
2 CH Balanced Transformerless (Each ch. driven)		57W/57W (8Ω)
(Both ch. driven)		42W+42W (8Ω)
20 Hz~20 kHz RMS (continuous) power:		
4 CH operation all ch. driven		13W+13W+13W+13W (8Ω)
2 CH Balanced Transformerless operation Both ch. driven		36W+36W (8Ω)
Power bandwidth (all ch. driven 8Ω):		5 Hz~40 kHz, −3dB
Frequency response:	PHONO	RIAA standard curve ±1dB
	AUX	10 Hz~50 kHz, +0dB −3dB
Residual hum & noise:		1.5mV
Input sensitivity & impedance:	PHONO MM	1.5mV/50kΩ
	AUX, PLAYBACK	150mV/60kΩ
	MIC	2mV/50kΩ
S/N (IHF, A):	PHONO	70dB
	AUX	90dB
Tone control:	BASS	50 Hz, +13dB −13dB
	TREBLE	10 kHz, +10dB −10dB
Loudness control: (Volume at −30 dB)		50 Hz, +10dB
REC OUT:		150mV
Damping factor:		30 (8Ω)
Load impedance: 4 CH (4~16Ω)	Balanced Transformerless	(8~16Ω)

Total harmonic distortion:	0.5%
Intermodulation distortion: (60 Hz : 7 kHz = 4 : 1, SMPTE)	0.7%

FM TUNER SECTION

Frequency range:				88~108 MHz
FM sensitivity (IHF):				1.9μV
Alternate channel selectivity:				65dB
Harmonic distortion:	MONO	0.3%	STEREO	0.4%
S/N:				65dB
Frequency response:			20 Hz~13 kHz,	±1dB
Image rejection (at 98 MHz):				55dB
IF rejection (at 98 MHz):				60dB
Spurious response rejection (at 98 MHz):				60dB
Capture ratio:				1.8dB
AM suppression:				50dB
Stereo separation (at 1 kHz):				40dB
Leak carrier (19 kHz, 38 kHz):				50dB

AM TUNER SECTION

Frequency range:	520~1610 kHz
Sensitivity:	20μV
Selectivity:	25dB
Image rejection (at 1000 kHz):	40dB
IF rejection (at 1000 kHz):	40dB

GENERAL

Power consumption:	345W
Power supply:	50/60 Hz 110/120/220/240V
Dimensions (W x H x D):	495 x 160 x 400mm (19½" x 6⅜" x 15¾")
Weight:	13.5 kg (29.8 lb.)

TECHNISCHE DATEN (DIN 45 500) Spezifikationen können infolge von Verbesserungen ohne Ankündigung geändert werden.

VERSTÄRKERTEIL

Musikleistung:	4-Kanal Betrieb		4x40W (4Ω)
	Transformatorlos Ausgeglichen Betrieb		2x80W (8Ω)
Nennleistung 1 kHz:			
4-Kanal Betrieb Alle Kanäle in Betrieb		4x18W (4Ω)	4x16W (8Ω)
Transformatorlos Ausgeglichen Betrieb Beide Kanäle in Betrieb			2x42W (8Ω)
Nennleistung 20 Hz~20 kHz:			
4-Kanal Betrieb Alle Kanäle in Betrieb		4x15W (4Ω)	4x13W (8Ω)
Transformatorlos Ausgeglichen Betrieb Beide Kanäle in Betrieb			2x36W (8Ω)
Harmonische Verzerrung: Nennleistung, bei 1000 Hz 4Ω			0.5%
Intermodulations Verzerrung: Nennleistung, bei 250 Hz : 8000 Hz = 4 : 1			0.7%
Leistungsbandbreite (Alle Kanäle in Betrieb 4Ω):			5 Hz~40 kHz −3dB
Frequenzgang:			10 Hz~50 kHz, −3dB
Eingangs-Empfindlichkeit und-Impedanz:	PHONO MM		1.5mV/50kΩ
	AUX		150mV/60kΩ
	MIC		2mV/50kΩ
Tonband-Cinchbuches:	PLAYBACK		150mV/60kΩ
	REC OUT		150mV
Fremdspannungsabstand:			
bei Nennleistung	PHONO		60dB
	AUX		78dB
bei 50mW Ausgangsleistung	PHONO		50dB
	AUX		56dB
Klangregler: Tiefen-Bereich			+13dB, −13dB bei 50 Hz
Höhen-Bereich			+10dB, −10dB bei 10 kHz
Loudness-Regler:			50 Hz +10dB
Dampfungsfaktor:		15 bei 4Ω,	30 bei 8Ω
Ausgänge Lautsprecher: 4-Kanal Betrieb			4~16Ω
Transformatorlos Ausgeglichen Betrieb			8~16Ω

UKW-TUNERTEIL

Empfangsbereich:				88~108 MHz
Antennenanschluß:	300Ω (symmetrisch)		75Ω (unsymmetrisch)	
Empfindlichkeit (bei ±40 kHz Hub):	1.8μV, 30dB Fremdspannungsabstand			300Ω
	1.5μV, 20dB Fremdspannungsabstand			300Ω
	1.0μV, 20dB Fremdspannungsabstand			75Ω
Klirrfaktor (bei ±40 kHz Hub):	MONO	0.3%	STEREO	0.7%
Fremdspannungsabstand:	MONO	52dB	STEREO	50dB
Selektivität bei 400 kHz:				65dB
Spiegelselektion (bei 98 MHz):				55dB
ZF-Festigkeit (bei 98 MHz):				60dB
Verzerrungsfestigkeit (bei 98 MHz):				60dB
Gleich wellen-Selektion:				1.8dB
AM-Unterdrückung:				50dB
Stereo-Übersprechdämpfung:				40dB bei 1 kHz
Pilotton-Unterdrückung:			48dB bei 19 kHz,	58dB bei 38kHz
Begrenzung, Einsatzpunkt:				1.2μV
Bandbreite: ZF-Verstärker				350 kHz
UKW-Demodulator				700 kHz

MW-TUNERTEIL

Empfangsbereich:	520~1610 kHz
Empfindlichkeit:	20μV
Selektivität:	25dB
Spiegelselektion:	40dB
ZF-Festigkeit:	40dB

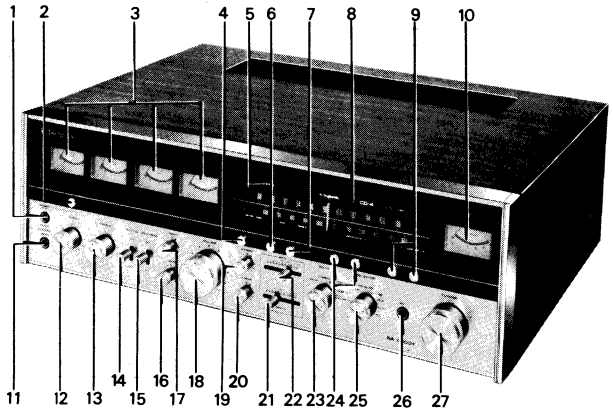
ALLGEMEINE DATEN

Leistungsaufnahme:	345W
Netzspannung umschaltbar:	50/60 Hz, 110/120/220/240V
Abmessungen (B x H x T):	495 x 160 x 400mm
Gewicht:	13.5kg

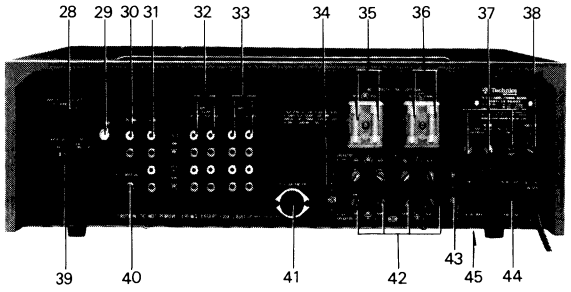
MATSUSHITA ELECTRIC
MATSUSHITA ELECTRIC TRADING CO., LTD.
P. O. Box 288, Central Osaka, Japan

ORDER NO. AD-053

■ LOCATION OF CONTROLS

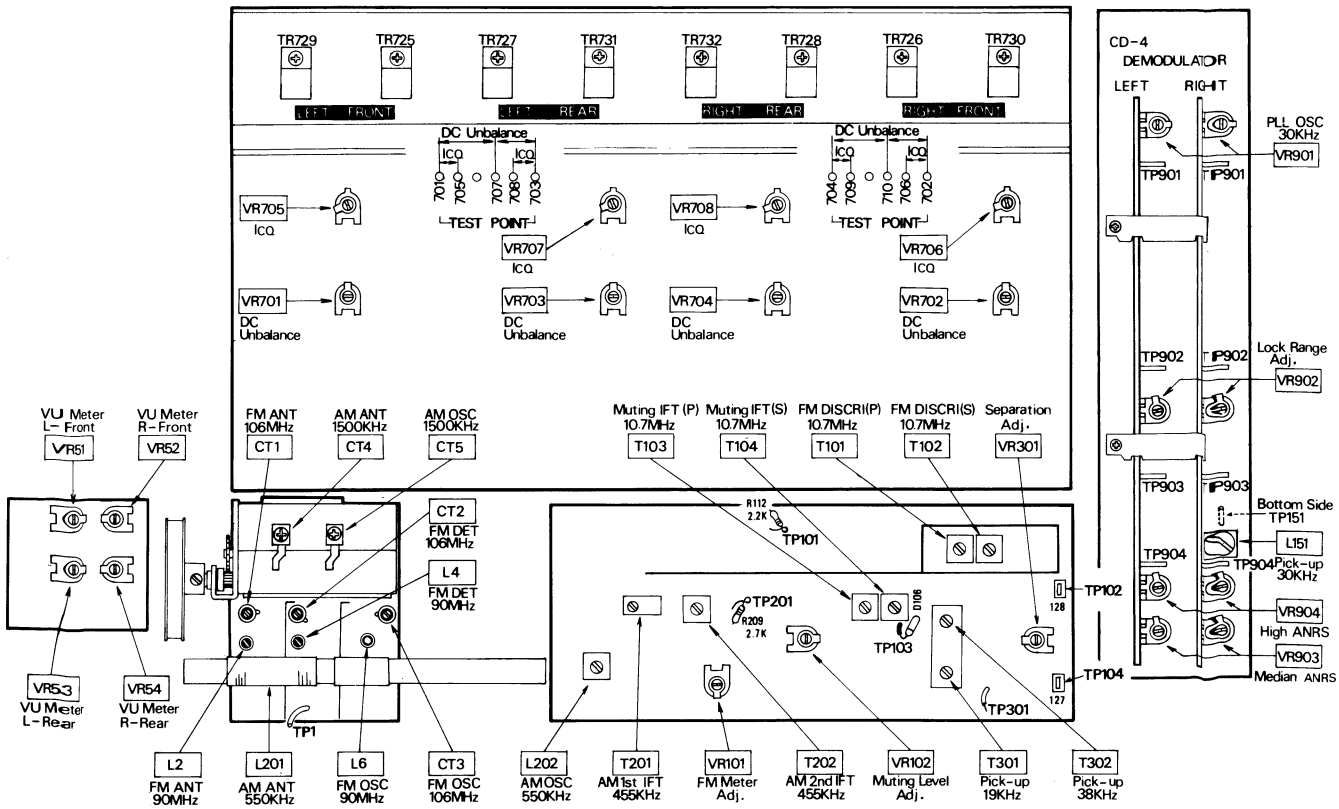


1. HEADPHONES JACK ..... Front Channel
2. POWER SOURCE SWITCH (S8)
3. V.U. [OUTPUT LEVEL] METER
4. V.U. METER RANGE SWITCH (S11)
5. FM STEREO INDICATOR
6. TAPE MONITOR SWITCH ..... TAPE 1 (S3)
7. TAPE MONITOR SWITCH ..... TAPE 2 (S4)
8. CD-4 4 CHANNEL RADAR
9. CD-4 CARRIER LEVEL ADJUSTMENT [Left and Right] (VR7, 8
10. SIGNAL STRENGTH METER
11. HEADPHONES JACK ..... Rear Channel
12. BASS CONTROL (VR602)
13. TREBLE CONTROL (VR603)
14. MUTING SWITCH (S5)
15. LOUDNESS SWITCH (S6)
16. LEFT REAR LEVEL CONTROL (VR4)
17. LEFT FRONT LEVEL CONTROL (VR3)
18. MAIN VOLUME CONTROL (VR601)
19. RIGHT FRONT LEVEL CONTROL (VR5)
20. RIGHT REAR LEVEL CONTROL (VR6)
21. AFD [DEPTH] CONTROL (VR2)
22. AFD [WIDTH] CONTROL (VR1)
23. MODE SWITCH (S2)
24. CD-4 SEPARATION ADJUSTMENT [Left and Right] (VR9, 10)
25. SELECTOR SWITCH (S1)
26. MICROPHONE JACK
27. TUNING CONTROL



28. CARRIER LEVEL ADJUSTMENT SWITCH (S9)
29. GROUND TERMINAL
30. PHONO INPUT TERMINALS
31. AUX INPUT TERMINALS
32. TAPE MONITOR TERMINALS ..... TAPE 1
33. TAPE MONITOR TERMINALS ..... TAPE 2
34. BALANCED TRANSFORMER LESS SWITCH (S7)
35. RIGHT CHANNEL CIRCUIT PROTECTION FUSES
36. LEFT CHANNEL CIRCUIT PROTECTION FUSES
37. EXT FM ANTENNA TERMINALS
38. EXT AM ANTENNA TERMINAL
39. CARTRIDGE SELECTOR SWITCH (S10)
40. 4CH MPX OUTPUT TERMINAL
41. 4CH REMOTE BALANCER CONNECTION SOCKET
42. SPEAKER TERMINALS
43. AC POWER OUTLET ..... Switched
44. AC POWER OUTLET ..... Unswitched
45. VOLTAGE SELECTOR SWITCH (S12).....(Set Bottom Side)

■ ALIGNMENT POINTS



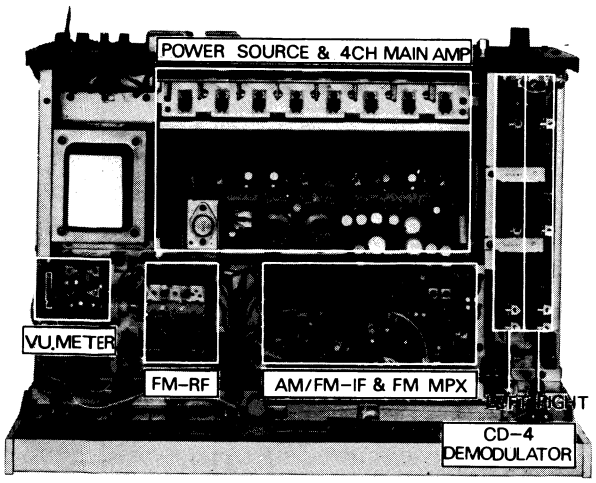
■ CD-4 RECORD PLAY

Before playing
1. Connect all of the equipment required for CD-4 play. (Refer to the instruction booklets.)
2. According to the cartridge to be used, set the CARTRIDGE SELECTOR switch of the unit to the proper position.
3. Set the MODE switch to the 4 CH DISCRETE position.
4. Set the SELECTOR switch to the CD-4 position.
5. While playing the included CD-4 test record (No. SPR111-1), assure that the sounds are emitted from the speakers of each channel.

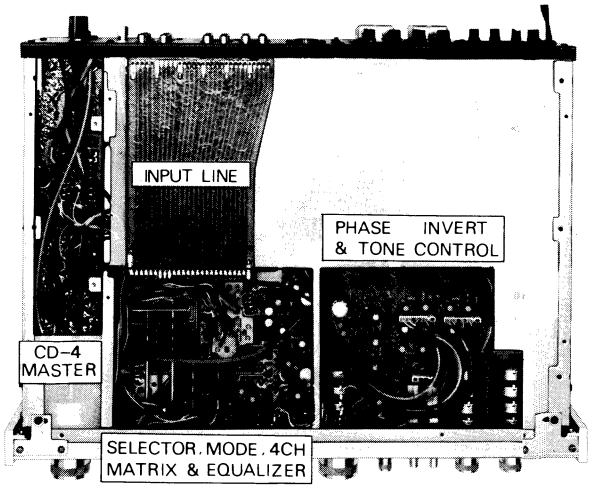
MAIN VOLUME (VR601) CHANNEL LEVEL (VR3, 4, 5, 6)	CARRIER LEVEL CONTROL L(VR7), R(VR8)	SEPARATION CONTROL L(VR9), R(VR10)	CARRIER LEVEL ADJUST SWITCH (S9)	PORTION OF THE INCLUDED TEST RECORD TO BE PLAYED	REMARKS
CARRIER LEVEL ALIGNMENT					
Minimum	Turn completely counterclockwise (to minimum)	Optional Position	L	SIDE A BAND 1	Slowly turn the(L) carrier level control clockwise until the 4 CH RADAR light just illuminates.
			R	SIDE A BAND 1	Slowly turn the(R) carrier level control clockwise until the 4 CH RADAR light just illuminates.
Notes: 1. If the carrier level controls (VR7, VR8) are turned too far, return them to the minimum position and carefully repeat the carrier level control adjustment from the beginning. 2. After the carrier level control adjustment has been completed, set the carrier level adjust switch (S9) to the NORMAL position.					
SEPARATION ALIGNMENT					
Turn VR601 to the max. position. Turn only L_F(VR3) & R_F(VR4) to their min. positions.	Remaining at the position where the carrier level was adjusted.	Variable	NORMAL	SIDE A BAND 2	Turn the left side separation control until the left rear sound becomes minimum.
				SIDE A BAND 3	Turn the right side separation control until the right rear sound becomes minimum.

Note: When the adjustment procedure is completed, set L_F, R_F, L_R, R_R, and the main volume controls back to their original positions.

■ LOCATION OF CIRCUIT BOARDS



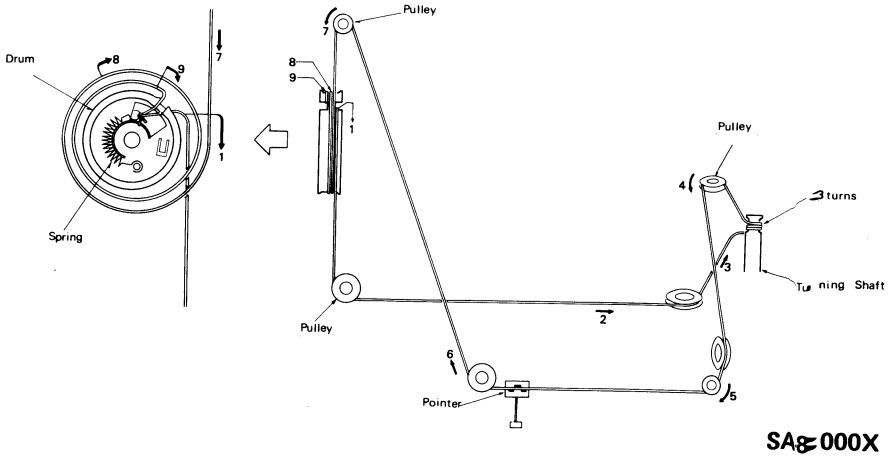
Top View



Bottom View

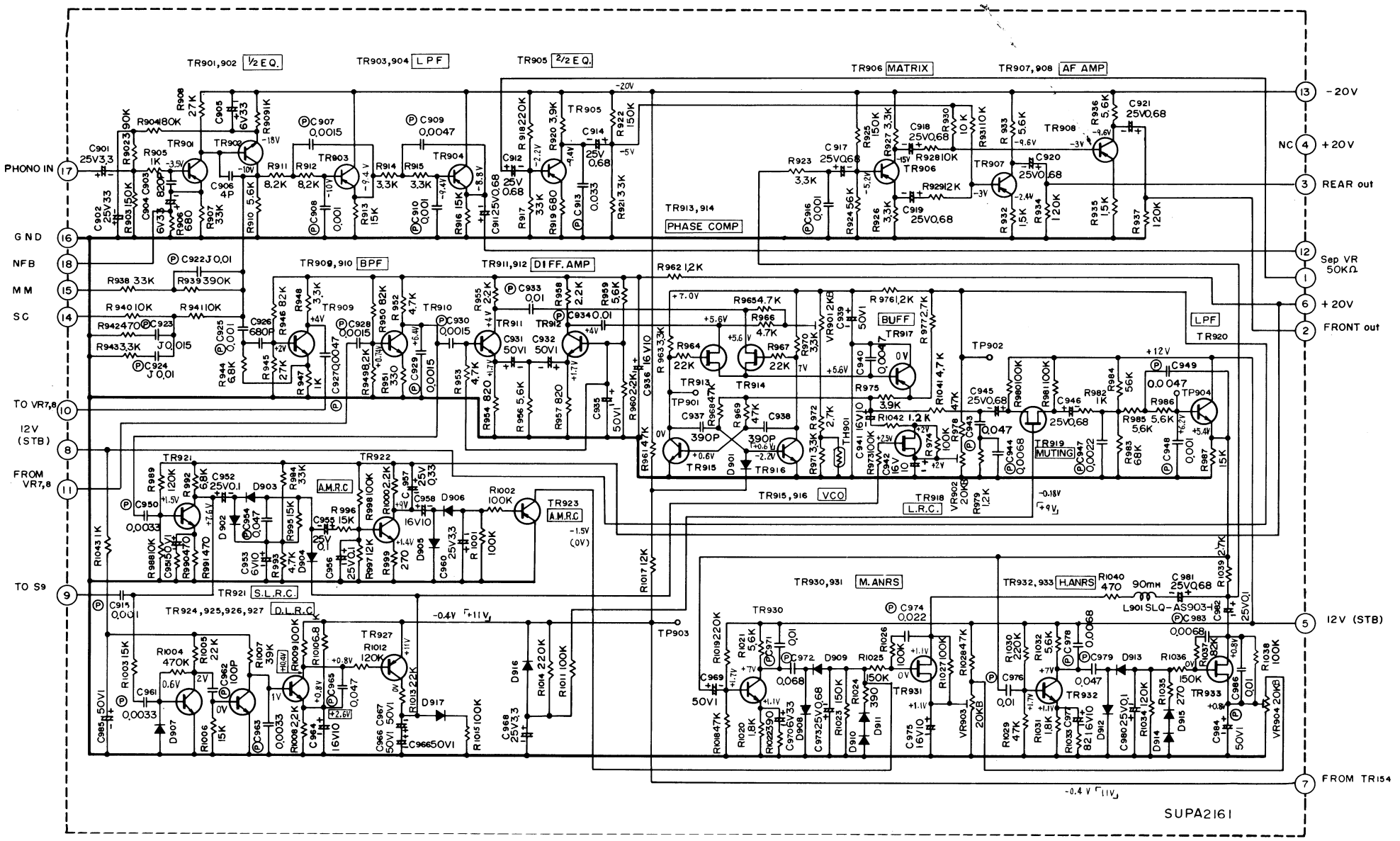
■ DIAL CORD INSTALLATION GUIDE

1. Dial cord length is 63⅛" (160cm)
2. Tuning gang is positioned at maximum capacity. (Frequency is minimum)
3. Arrow marks (1 ~ 9) indicate correct order and direction of stringing dial cord.



Schematic Diagram .....Model SA-8000X

CD-4 Demodulator



TR917, 923, 927 ---------- 2SA564
TR901, 903, 904, 905 ----------
906, 907, 908 ---------- 2SA721
TR909, 910, 911, 912, 915, 916, 921 ----------
922, 924, 925, 926, 930, 932 ---------- 2SC828
TR902, 920 ---------- 2SC1327

TR913, 914, 918, 919, 931, 933 ---------- 2SK30
D910, 911, 914, 915 ---------- MA26-i
D901, 917 ---------- MA150
D902, 903, 904, 905, 906 ----------
907, 908, 909, 912, 913, 916 ---------- 0A99

TH901 ..... RRT202-2

STANDARD VOLTAGE
⌐ ¬ ..... CD-4 Operation
▭ ..... DLRC Operation
( ) ..... AMRC Opreation

ALIGNMENT INSTRUCTIONS.....READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Notes :

1. Volume control ..... Minimum
2. Balanced transformer less switch..... 4CH
3. Other controls ..... Optional position
4. Maintain line voltage at rated voltage.
5. The adjustment should be started 1~2 minutes after setting the power switch to the ON position.
6. Before adjusting, I_{CQ} adjusting volumes (VR805, VR806, VR807 and VR808) as shown in Alignment Point Location. Refer to page 2.

MAIN AMP ALIGNMENT

	CIRCUIT	VTVM CONNECTION	ADJUSTMENT POINTS	REMARKS
1	DC Unbalance	Connect DC VTVM to **TP**702 and **TP**710 (R-Front), **TP**701 and **TP**707 (L-Front) terminal.	VR702 (R-Front) VR701 (L-Front)	Make sure that DC VTVM becomes 0mV.
		Connect DC VTVM to **TP**704 and **TP**710 (R-Rear), **TP**703 and **TP**707 (L-Rear) terminal.	VR704 (R-Rear) VR703 (L-Rear)	
2	I_{CQ}	Connect DC VTVM to **TP**702 and **TP**706 (R-Front), **TP**701 and **TP**705 (L-Front) terminal.	VR706 (R-Front) VR705 (L-Front)	Make adjustments so that the indication on DC VTVM becomes 4mV.
		Connect DC VTVM to **TP**704 and **TP**709 (R-Rear), **TP**703 and **TP**708 (L-Rear) terminal.	VR708 (R-Rear) VR707 (L-Rear)	

Notes :

1. Volume control ..... Maximum (AM-RF)
   Minimum (AM-IF, FM-IF)
   Variable (FM-RF)
2. Bass and treble control ..... Center
3. Band selector switch ..... AM
   FM-Auto (FM-RF, FM-IF)
4. Loudness switch ..... OFF
5. Muting switch ..... OFF
6. Balanced transformer less switch..... 4CH
7. Tape-monitor switch ..... Source
8. Mode switch ..... Stereo
9. Maintain line voltage at rated voltage.
10. Output of signal generator should be no higher than necessary to obtain an output reading.

	SIGNAL GENERATOR or SWEEP GENERATOR		RECEIVER DIAL SETTING [DISTANCE]	INDICATOR (VTVM or SCOPE)	ADJUSTMENT POINTS	REMARKS
	CONNECTION	FREQUENCY				
	AM ALIGNMENT					
3	High side through 0.001μF to antenna terminal, Common to chassis.	455kHz (20kHz Sweep)	Point of non-interference	Connect vert. amp. of scope to **TP**201.	T201 (1st IFT) T202 (2nd IFT)	Adjust for maximum output.
4	Fashion loop of several turns of wire and radiate signal into loop of receiver.	550kHz (30% Mod. with 400Hz)	550kHz [4.6mm (3/16")]	Connect meter to speakers terminal of set.	L202 (OSC Coil) L201 (ANT Coil)	Adjust for maximum output. Adjust L201 by moving coil bobbin along ferrite core.
5	Fashion loop of several turns of wire and radiate signal into loop of receiver.	1500kHz (30% Mod. with 400Hz)	1500kHz [131mm (5 5/32")]	Connect meter to speakers terminal of set.	CT5 (OSC Trimmer) CT4 (ANT Trimmer)	Adjust for maximum output. Repeat steps (4) and (5).
	FM-IF ALIGNMENT					
6			Point of non-interference.	Connect DC VTVM between **TP**102 and **TP**104.	T102 (FM DISCRI IFT) (S)	Make sure that VTVM becomes 0V.
7	High side through 0.001μF to **TP**1. Common to chassis.	10.7MHz (400kHz Sweep)	Point of non-interference.	Connect vert. amp. of scope through detector to **TP**101. Refer to figure 1.		Confirm center frequency.
8	High side through 0.001μF to **TP**1. Common to chassis.	10.7MHz (400kHz Sweep)	Point of non-interference.	Connect vert. amp. of scope to **TP**103.	T103 (Muting IFT) (P) T104 (Muting IFT) (S)	Adjust for maximum sharp and proper linearity. Adjust to center frequency as step 7. Refer to figure 2.
	FM-RF ALIGNMENT					
9	Connect to FM antenna terminal through FM dumm antenna. (Refer to fig 3)	90MHz (100% Mod. with 400Hz)	90MHz [17.3mm (21/32")]	Output meter across speaker terminals.	L6 (FM OSC Coil) * L4 (FM DET Coil) L2 (FM ANT Coil)	Adjust for maximum output.
10	Connect to FM antenna terminal through FM dummy antenna. (Refer to fig. 3)	106MHz (100% Mod. with 400Hz)	106MHz [122.7mm (4 27/32")]	Output meter across speaker terminals.	CT3 (FM OSC Trimmer) CT2 (FM DET Trimmer) CT1 (FM ANT Trimmer)	Adjust for maximum output. Repeat steps (9) and (10).

* Use six cornered alignment tool for aligning FM OSC coil (L6).

MUTING LEVEL ALIGNMENT

Note : Muting switch.....ON

11	Connect to FM antenna terminal through FM dummy antenna.	98MHz (100% Mod. with 400Hz) Output 28dB	98MHz	Output meter or speaker across speaker terminals.	VR102 (Muting Level)	Adjust so that output can be obtained.

	SIGNAL GENERATOR CONNECTION	SIGNAL GENERATOR FREQUENCY	RECEIVER DIAL SETTING	INDICATOR (DISTORTION METER and SIGNAL METER)	ADJUSTMENT POINTS	REMARKS
	FM-MONO DISTORTION ALIGNMENT					
	Note : Muting switch ..... OFF					
12	Connect to FM antenna terminal through FM dummy antenna.	98 MHz (100% Mod. with 400 Hz) Output 72 dB	98 MHz	Connect distortion meter to speaker terminals.	T101 (FM DISCRI IFT) (P)	Adjust for minimum distortion.
	SIGNAL METER ALIGNMENT					
13	Connect to FM antenna terminal through FM dummy antenna.	98 MHz (30% Mod. with 400 Hz) Output 72 dB	98 MHz	Signal meter of set.	VR101 (Indicated Position)	Adjust for about 4.6 point of signal meter indication.

Notes :

Stereo-modulator ..... Connect stereo-modulator output to EXT. MOD. terminal of signal generator. Internal OSC 1 kHz. Pilot signal modulation 10%.

Signal generator ..... Frequency approximately 98 MHz. Output level 72 dB. Modulation mode to FM.

1. Band selector ..... FM-Auto
2. Bass and treble control ..... Center
3. Balanced transformer less switch 4CH
4. Mode switch ..... Stereo
5. Maintain line voltage at rated voltage
6. Muting switch ..... OFF
7. Loudness switch ..... OFF
8. Tape monitor switch ..... Source
9. Dummy load ..... Source

	SIGNAL GENERATOR CONNECTION	STEREO MODULATOR MODE and MOD. RATE	INDICATOR (VTVM or SCOPE)	ADJUSTMENT POINTS	REMARKS
	19kHz COIL and PHASE ALIGNMENT				
14	FM antenna terminal through dummy antenna.	Pilot signal to ON.	Connect scope to **TP**301, Common to chassis.	T301 (19 kHz Coil)	Adjust for maximum output.
15	〃	〃 L (or R) 30% Mod.	Connect scope to speaker terminals.	T302 (38 kHz Coil) (Phase Alignment)	Adjust for minimum right (or left) output.
	SEPARATION ALIGNMENT				
16	FM antenna terminal through dummy antenna.	L (and R) 30% Mod.	Output meter across speaker terminals through low pass filter. (Refer to fig. 4)	VR301 (Separation)	Adjust for minimum right (and left) output.

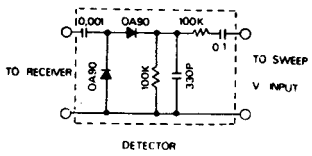


Fig. 1

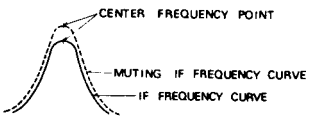
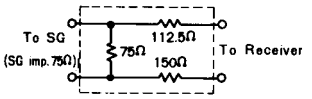


Fig.2



300Ω FM Dummy Antenna

Fig. 3

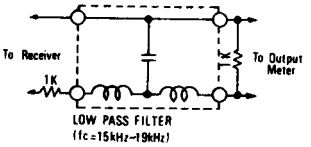


Fig.4

■ FM-RF ALIGNMENT INSTRUCTIONS ..... Only set for Germany

ABGLEICHANWEISUNGEN.....VOR DEM ABGLEICH SORGFÄLTIG DURCHLESEN					
MESSENDER SCHALTUNG	MESSENDER FREQUENZ	SKALENZEIGER-EINSTELLUNG DES EMPFÄNGERS (ABSTAND)	ANGEIGE (RÖHRENVOLTMETER ODER OSZILLOGRAPH)	ABGLEICH	BEMERKUNGEN
FM HF-ABGLEICH					
Anschluß an den FM Antennenanschluß über die künstliche FM Antenne	87.5 MHz (100% Mod bei 400Hz)	87.5MHz (0mm)	Output meter über Lautsprecher-schwingspule anschließen	L6 (Oszillatorspule)	Auf max. Ausgang abgleichen
〃	90 MHz (〃)	90 MHz	〃	L4 (Zwischenkreis) L2 (Antennenspule)	〃
〃	106 MHz (〃)	106 MHz [122.7mm]	〃	CT3 (OSZ. Trimmer) CT2 (DET. Trimmer) CT1 (ANT. Trimmer)	〃

CD-4 DEMODULATOR ALIGNMENT INSTRUCTIONS

Notes :

1. Volume control ..... Minimum (ANRS, MUTING)
2. Channel level control ..... Maximum
3. Balanced transformer less switch ..... 4 CH
4. Cartridge selector switch ..... MM (or SC)
5. Carrier level adjustment switch ..... NORMAL
6. Selector switch CD-4
7. Mode switch ..... 4 CH DISCRETE
8. Tape monitor switch 1 & 2 ..... Source
9. Bass & treble control ..... Flat
10. Loudness switch ..... OFF
11. Separation control (L & R) ..... Minimum
12. Maintain line voltage at rated voltage.
13. Before adjusting, turn volume control VR901, VR902, VR903 and VR904 as shown in the Alignment Points Location. Refer to pag 2.
14. CD-4 demodulator alignment record ..... No. RG-1256, RG-1257
15. Use a player and MM (or SC) cartridge for CD-4 play.

	OSCILLATOR (or CD-4 ALIGNMENT RECORD) CONNECTION	INPUT FREQUENCY & INPUT LEVEL	INDICATOR (VTVM & SCOPE)	ADJUSTMENT POINTS	REMARKS
	AUTOMATIC NOISE REDUCTION SYSTEM (ANRS) ALIGNMENT				
1	Connect oscillator to **TP904** (Right & Left) through electrolytic capacitor (25V, 10μF). Refer to fig. 1.	1kHz (92mV)	Connect VTVM to RF & LF REC OUT terminals through ATT 2. Refer to fig. 1.	ATT 2 (Attenuator)	Adjust ATT 2 until the output of RF becomes 0dB when the right input is applied, and until the output of LF becomes 0dB when the left input is applied.
2	Connect oscillator to **TP904** (Right & Left) through electrolytic capacitor (25V, 10μF). Refer to fig. 1.	6.3kHz (−10dB from Step 1)	Connect VTVM to RF & LF REC OUT terminals through ATT 2. Refer to fig. 1.	VR904 (High ANRS)	Adjust VR904 until the output becomes −15dB (right & left sides).
3	Connect oscillator to **TP904** (Right & Left) through electrolytic capacitor (25V, 10μF). Refer to fig. 1.	630Hz (−10dB from Step 1)	Connect VTVM to RF & LF REC OUT terminals through ATT 2. Refer to fig. 1.	VR903 (Median ANRS)	Adjust VR903 until the output becomes −16.4dB (right & left sides).
	MUTING COIL ALIGNMENT				
4	Connect oscillator to PHONO input of set's left terminal. Or play CD-4 alignment record (RG-1256 BAND 9). Refer to fig. 2.	30kHz ±50Hz (1mV)	Connect scope to **TP151** *	VR7 (Left Carrier Level)	Adjust VR7 until a sine wave with the best appearance can be obtained.
5	Connect oscillator to PHONO input of set's left terminal. Or play CD-4 alignment record (RG-1256 BAND 9) Refer to fig. 2.	30kHz ±50Hz (1mV)	Connect scope to **TP151** *	L151 ** (Muting Coil)	Adjust for maximum proper linearity.

* TP151 is on the rear side of the CD-4 MASTER P.C.B.

** L151 can be easily adjusted if the right side of the CD-4 DEMODULATOR is pulled out.

PLL FREE RUNNING FREQUENCY ALIGNMENT

Notes :

1. Be sure to connect the right side demodulator **TP902** with **TP903***, and that the CD-4, 4 CH RADAR light is illuminated. Adjust the left side in the same manner as described above.
2. Correctly adjust the rotational speed of the player to 33-1/3 rpm.
3. Set the CARRIER LEVEL ADJUST switch (S9) to the NORMAL position.
4. Connect the probe (Impedance-more than 1MΩ, less than 30pF) to scope.

	SCOPE or SPEAKER CONNECTION	CD-4 ALIGNMENT RECORD	ADJUSTMENT POINTS	REMARKS
6	Connect scope to POINT [A] of S9 through probe. Refer to fig. 3.	RG-1256 BAND 9	VR8 (Right Carrier Level Control)	Adjust VR8 until a 50mV P-P wave is measured using the scope.
7	Connect speaker or scope to RR (or RF) speaker terminals.	RG-1256 BAND 9	VR901 (Right PLL Free Running)	Listening to the beat sound from speakers, or by observing the beat wave form, adjust VR901 until the beat frequency disappears.
8	Connect scope to POINT [B] of S9 through probe. Refer to fig. 3.	RG-1256 BAND 9	VR7 (Left Carrier Level Control)	Adjust VR7 until a 50mV P-P wave is measured using the scope.
9	Connect speaker or scope to LR (or LF) speaker terminals.	RG-1256 BAND 9	VR901 (Left PLL Free Running)	Listening to the beat souod from speakers, or by observing the beat wave form, adjust VR901 until the beat frequency disappears.

* Disconnect **TP902** from **TP903** after the adjustment has been completed.

	SCOPE or SPEAKER CONNECTION	CD-4 ALIGNMENT RECORD	ADJUSTMENT POINTS	REMARKS
	STATIC LOCK RANGE CONTROL ALIGNMENT			
	Note : Adjust the carrier level using the included CD-4 test record (SPR111-1). (Refer to "CD-4 RECORD PLAY" for the adjusting method.) Set the CARRIER LEVEL ADJUST switch to the NORMAL position after adjustment has been made.			
10	Connect scope to POINT [A] of S9 through probe. Refer to fig. 3.	RG-1257 BAND 4 (The second from the inner side)		Measure the voltage level of the wave using the scope. This is defined as the specified voltage. Refer to fig. 4.
11	Connect scope to POINT [A] of S9 through probe. Refer to fig. 3.	RG-1257 BAND 4 (The second from the inner side)	VR8 (Right Carrier Level Control)	Adjust VR8 until $1/\sqrt{2}$ (−3dB) of the specified voltage level, which was measured at step **10**, is reached. Refer to fig. 5.
12	Connect scope to R_R (or R_F) speaker terminals.	RG-1257 BAND 4 (The second from the inner side)	VR902 (Right Static Lock Range)	Adjust the right side VR902 until the large distortion disappears and a correct sine-wave is attained. Refer to fig. 6.
13	Connect scope to POINT [B] of S9 through probe. Refer to fig. 3.	RG-1257 BAND 4 (The second from the inner side)		Measure the voltage level of the wave using the scope. This is defined as the specified voltage. Refer to fig. 4.
14	Connect scope to POINT [B] of S9 through probe. Refer to fig. 3.	RG-1257 BAND 4 (The second from the inner side)	VR7 (Left Carrier Level Control)	Adjust VR7 until $1/\sqrt{2}$ (−3dB) of the specified voltage level, which was Measured at step **13**, is reached. Refer to fig. 5.
15	Connect scope to L_R (or L_F) speaker terminals.	RG-1257 BAND 4 (The second from the inner side)	VR902 (Left Static Lock Range)	Adjust the left side VR902 until the large distortion disappears and a correct sine-wave is attained. Refer to fig. 6.

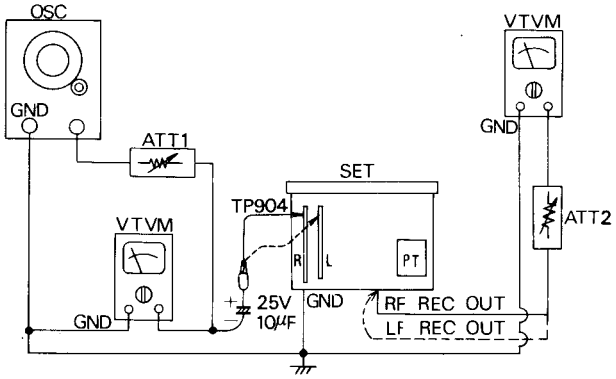


Fig. 1

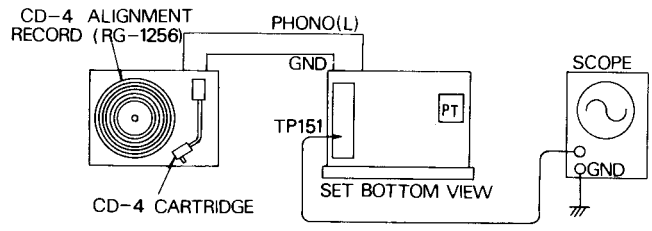


Fig. 2

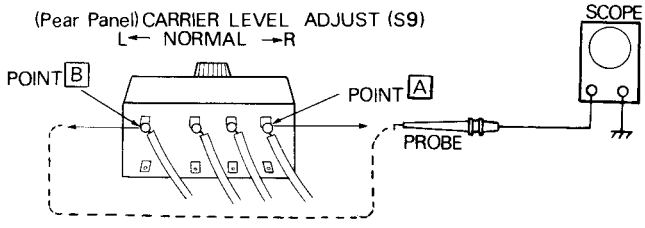


Fig. 3

Fig. 6

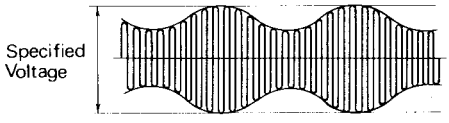


Fig. 4

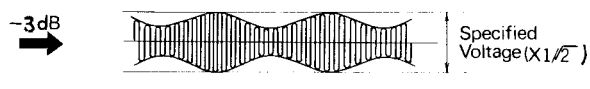
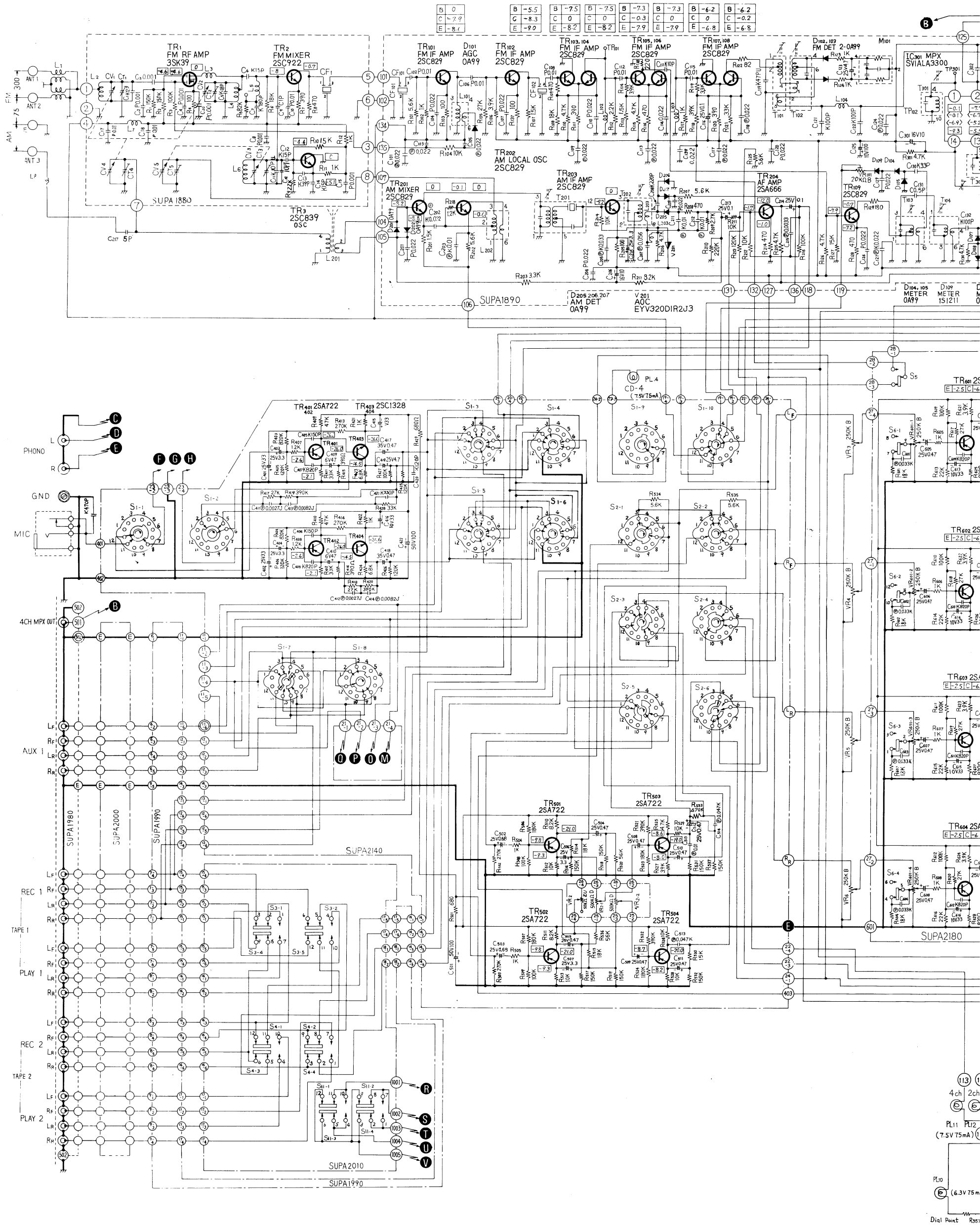


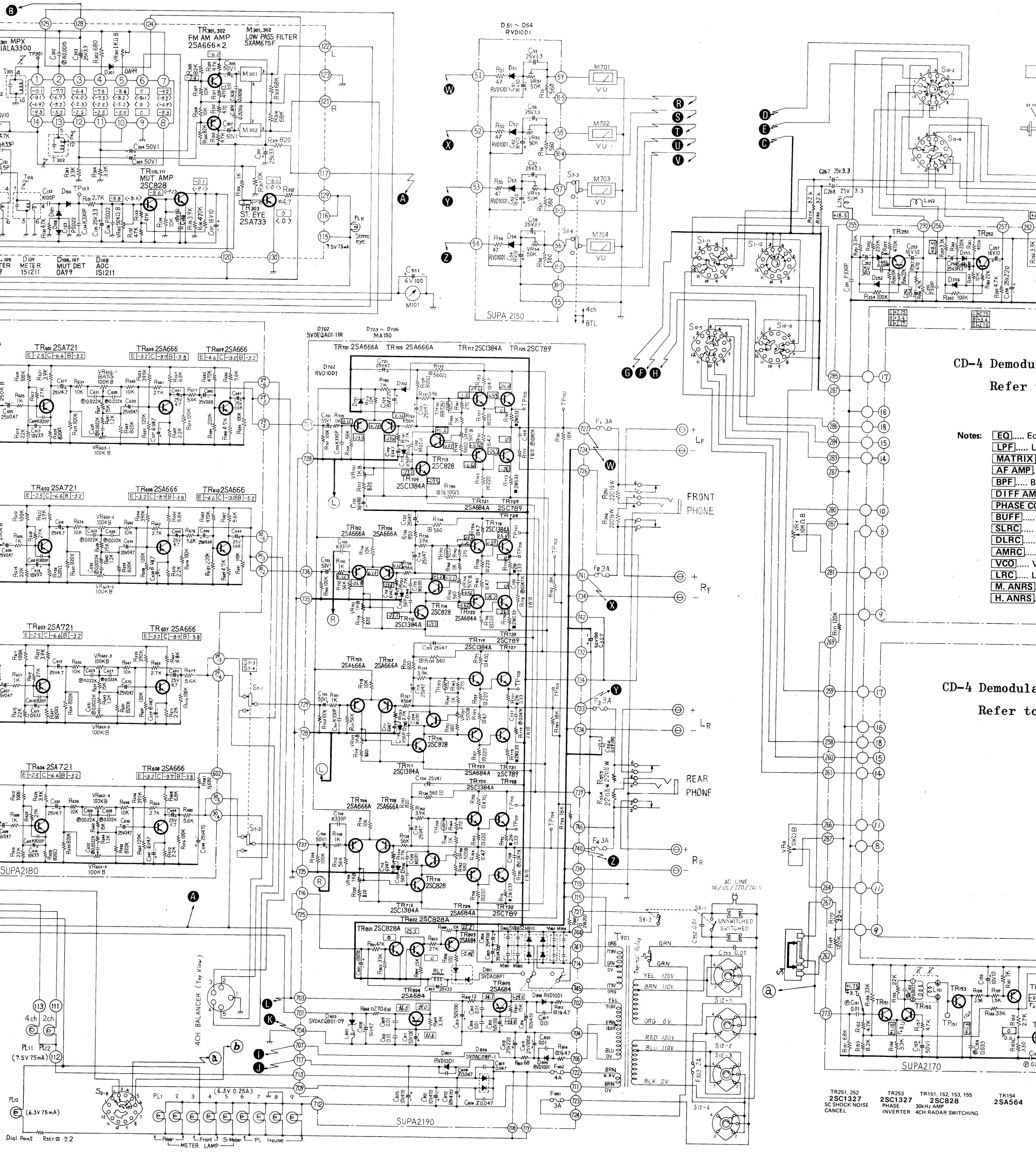
Fig. 5

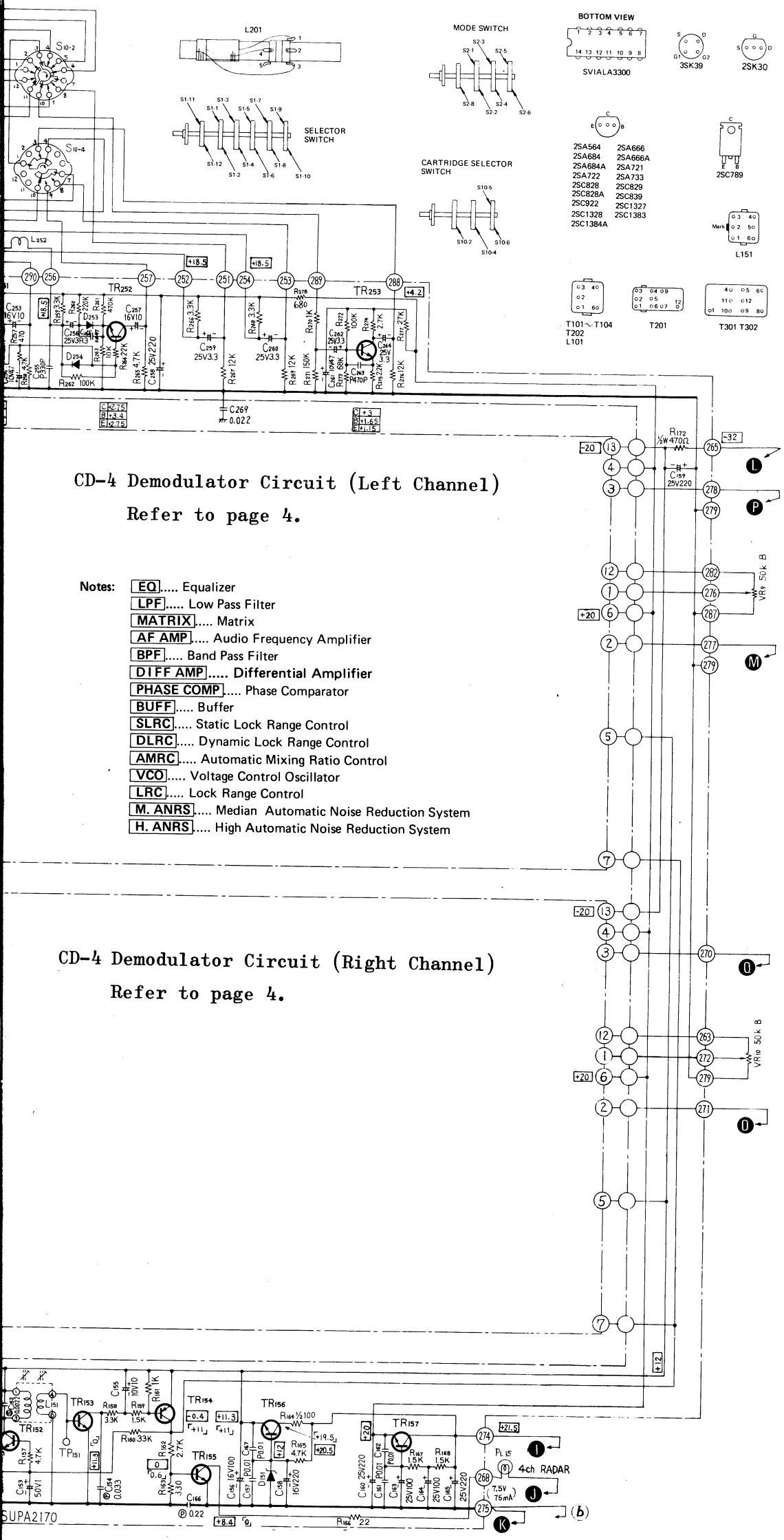
Schematic Diagram ..... Model SA-8000X

(This schematic diagram may be



ogram may be modified at any time with the development of new technology.)





CD-4 Demodulator Circuit (Left Channel)

Refer to page 4.

CD-4 Demodulator Circuit (Right Channel)

Refer to page 4.

Notes:

- EQ ..... Equalizer
- LPF ..... Low Pass Filter
- MATRIX ..... Matrix
- AF AMP ..... Audio Frequency Amplifier
- BPF ..... Band Pass Filter
- DIFF AMP ..... Differential Amplifier
- PHASE COMP ..... Phase Comparator
- BUFF ..... Buffer
- SLRC ..... Static Lock Range Control
- DLRC ..... Dynamic Lock Range Control
- AMRC ..... Automatic Mixing Ratio Control
- VCO ..... Voltage Control Oscillator
- LRC ..... Lock Range Control
- M. ANRS ..... Median Automatic Noise Reduction System
- H. ANRS ..... High Automatic Noise Reduction System

S3, S4: SOURCE / TAPE

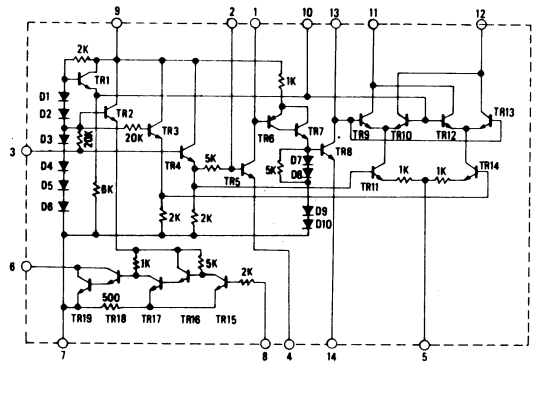
S11: OFF / -10dB

Notes:

1. **S1-1 ~ S1-12:** Selector switch in **"AM"** position
   AM ↔ FM AUTO ↔ PHONO ↔ CD-4 ↔ AUX ↔ MIC
2. **S2-1 ~ S2-8:** Mode switch in **"MONO"** position.
   MONO ↔ STEREO ↔ PHASE 90° ↔ PHASE 0° ↔ 4CH DISCRETE
   4CH MATRIX
3. **S3-1 ~ S3-4:** Tape monitor (TAPE 1) switch in **"SOURCE"** position.
4. **S4-1 ~ S4-4:** Tape monitor (TAPE 2) switch in **"SOURCE"** position.
5. **S5:** Muting switch in **"OFF"** position.
6. **S6-1 ~ S6-4:** Loudness switch in **"OFF"** position.
7. **S7-1 ~ S7-4:** Balanced transformerless switch in **"4CH"** position.
8. **S8-1, S8-2:** Power source switch in **"OFF"** position.
9. **S9:** Carrier level adjustment switch in **"NORMAL"** position.
   L ↔ NORMAL ↔ R
10. **S10-1 ~ S10-4:** Cartridge selector switch in **"MM"** position.
    MM ↔ SEMI CONDUCTOR A ↔ SEMI CONDUCTOR B
11. **S11-1 ~ S11-4:** VU meter range switch in **"OFF"** position.
12. **S12-1 ~ S12-4:** Voltage selector switch in "110V" position
    MARK 110V↔120V↔220V↔240V
13. **RLY:** Speakers protection relay in **"OFF"** position.
14. DC voltage measurements are taken with DC voltmeter from chassis ground.
    - ☐ ..... FM/AM No signal condition.
    - < > ..... FM stereo signal reception or FM muting to **"ON"** position.
    - ⌐ ⌙ ..... CD-4 operation

VR1: AFD control ..... WIDTH
VR2-1, VR2-2: AFD control ..... DEPTH
VR3 ~ VR6: Channel level control
VR7, VR8: Carrier level control
VR9, VR10: Separation control
VR101: FM meter adjustment
VR102: FM muting level adjustment
VR301: FM separation adjustment
VR601-1 ~ VR601-4: Main volume control
VR602-1 ~ VR602-4: Bass control
VR603-1 ~ VR603-4: Treble control
VR701 ~ VR704: DC unbalance adjustment
VR705 ~ VR708: ICQ adjustment
VR901 (Left & Right): PLL free running frequency adjustment
VR902 (Left & Right): Lock range control adjustment
VR903 (Left & Right): Median automatic noise reduction system adjustment
VR904 (Left & Right): High automatic noise reduction system adjustment

SVIALA3300



TR151, 152, 153, 155	TR154	TR156, 157	D251～D254	D151
2SC828	2SA564	2SC1383	MA150	SVDAEQA0112R
30kHz AMP		RIPPLE FILTER		
4CH RADAR SWITCHING				

■ TO REMOVE TUNER

1. Remove four (4) cabinet mounting screws. (Refer to Cabinet and Chassis Parts Location on page 19.)
2. Remove cabinet from chassis.
3. Remove fourteen (14) control knobs from front panel.
4. Remove six (6) front panel mounting black screws. (Refer to Cabinet and Chassis Parts Location on page 19.)
5. Remove front panel from chassis.
6. Remove ten (10) tuner mounting black screws. nos. 1 ~ 10 as figure 1 and 2.
7. Loosen power switch mounting screws, nos. 11, 12 and slide power switch as figure 1.
8. Then tuner can be moved in front of chassis as figure 3.

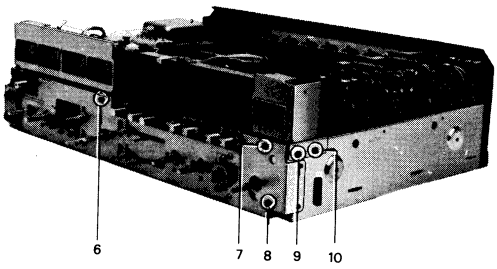


Fig. 2

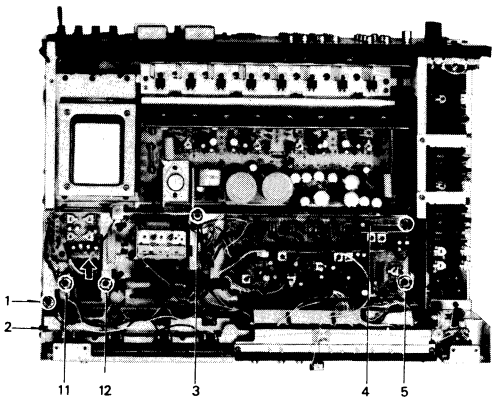


Fig. 1

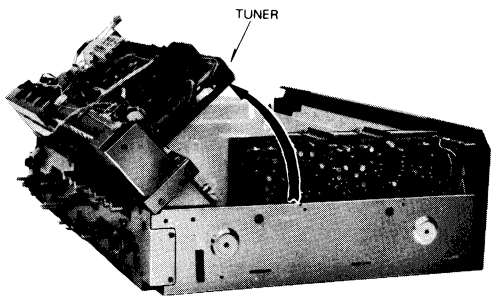
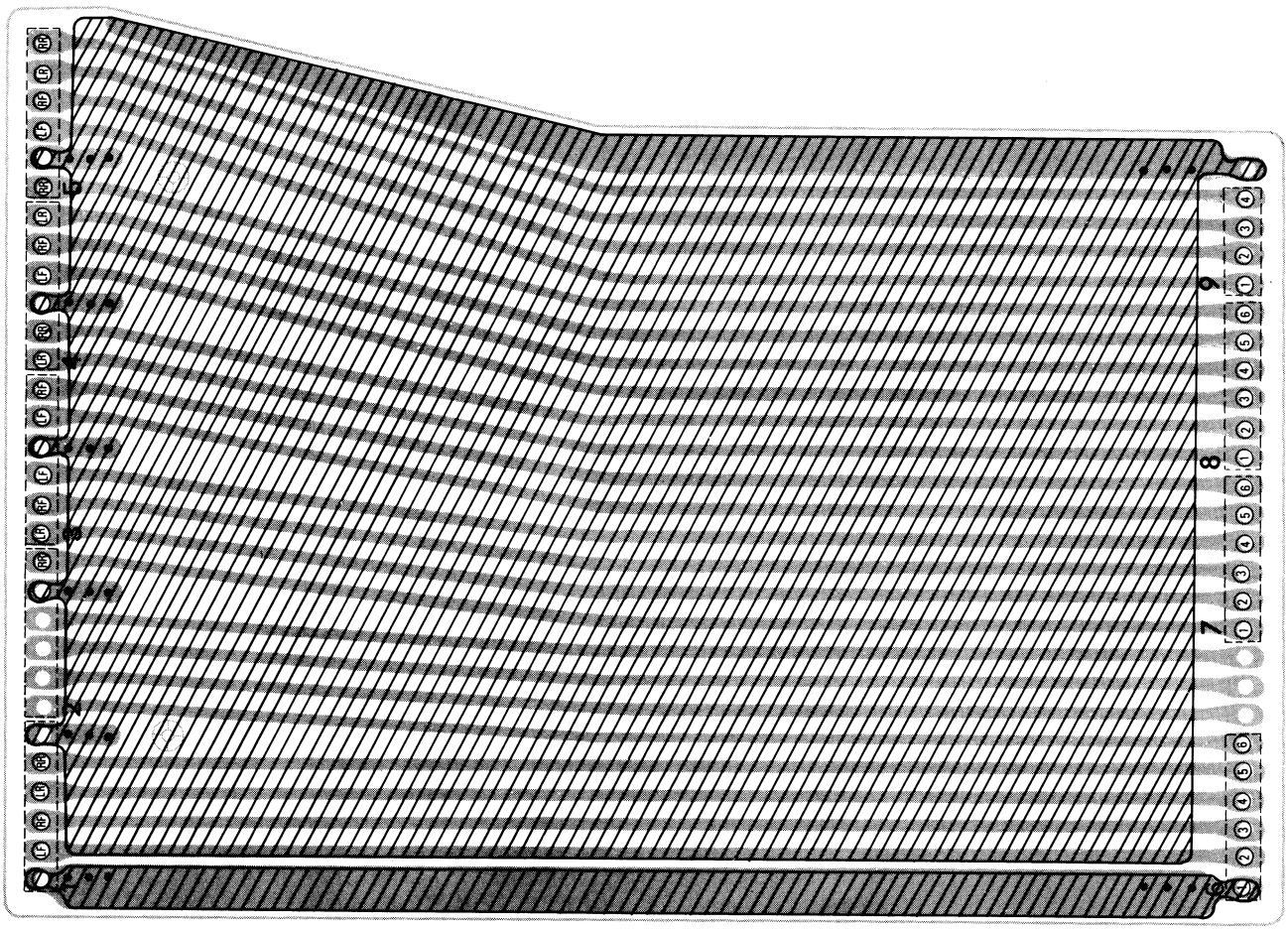


Fig. 3

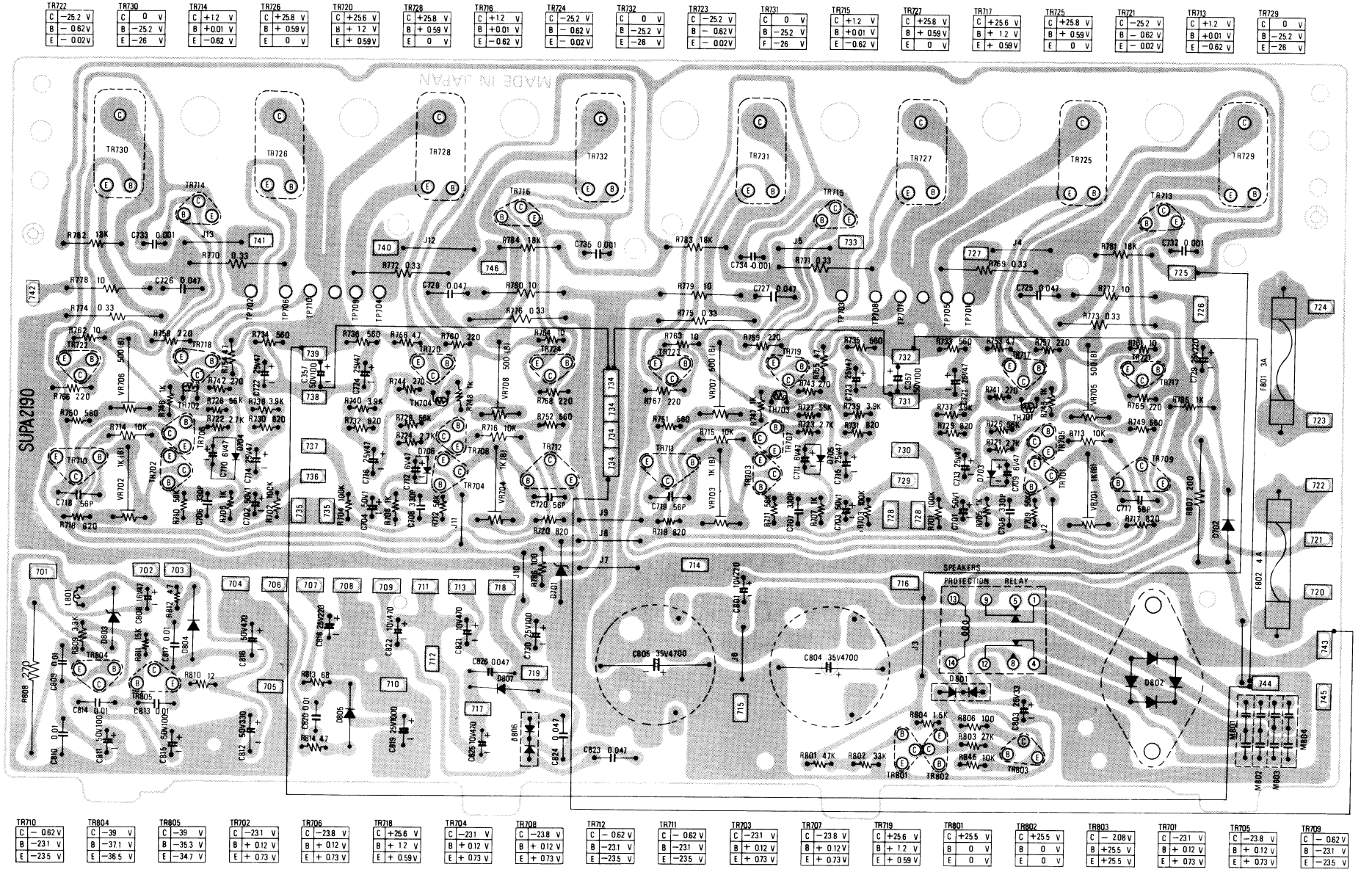
INPUT LINE Circuit Board

Printed Circuit View on Top of p.c.b.

Printed Circuit View on Bottom of p.c.b.

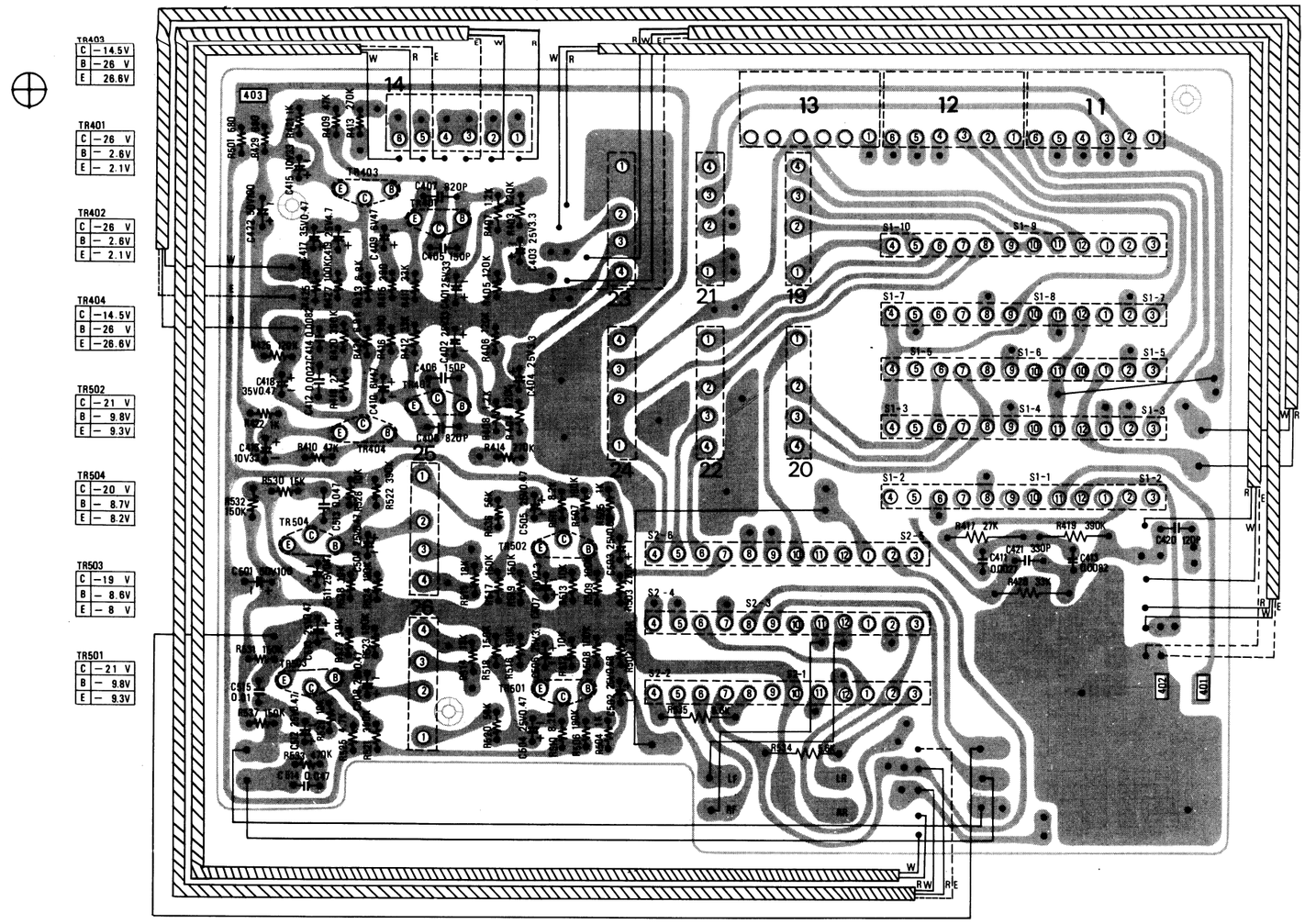


POWER SOURCE & 4CH MAIN AMPLIFIER Circuit Board



SELECTOR/MODE SWITCH, 4 CH MATRIX & EQUALIZER Circuit Board

Bottom View

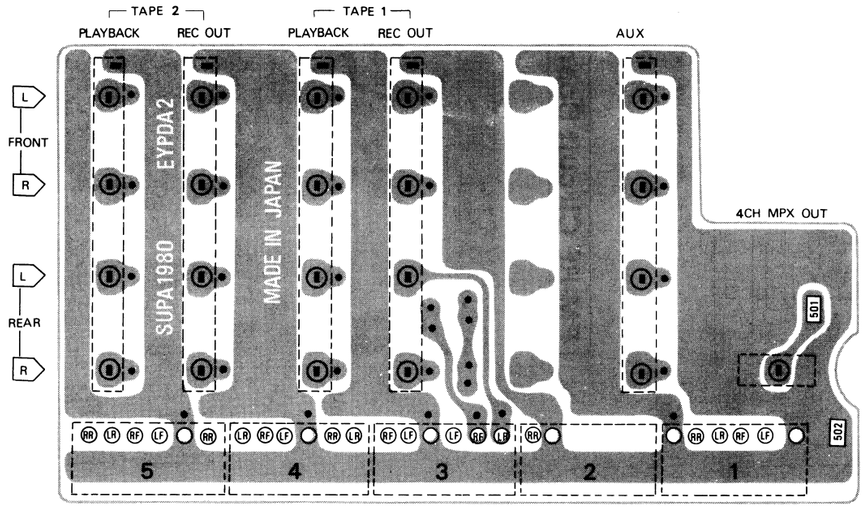


MODE SWITCH (S2)

SELECTOR SWITCH (S1)

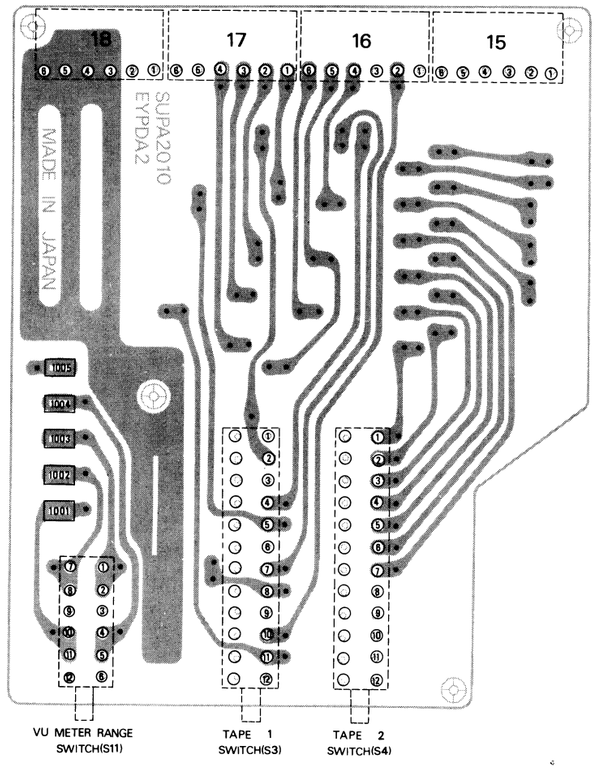
INPUT TERMINAL Circuit Board

Bottom View

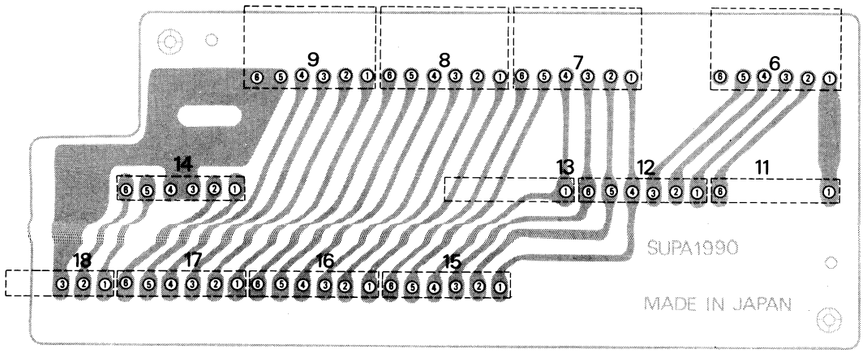


TAPE MONITOR SWITCH Circuit Board

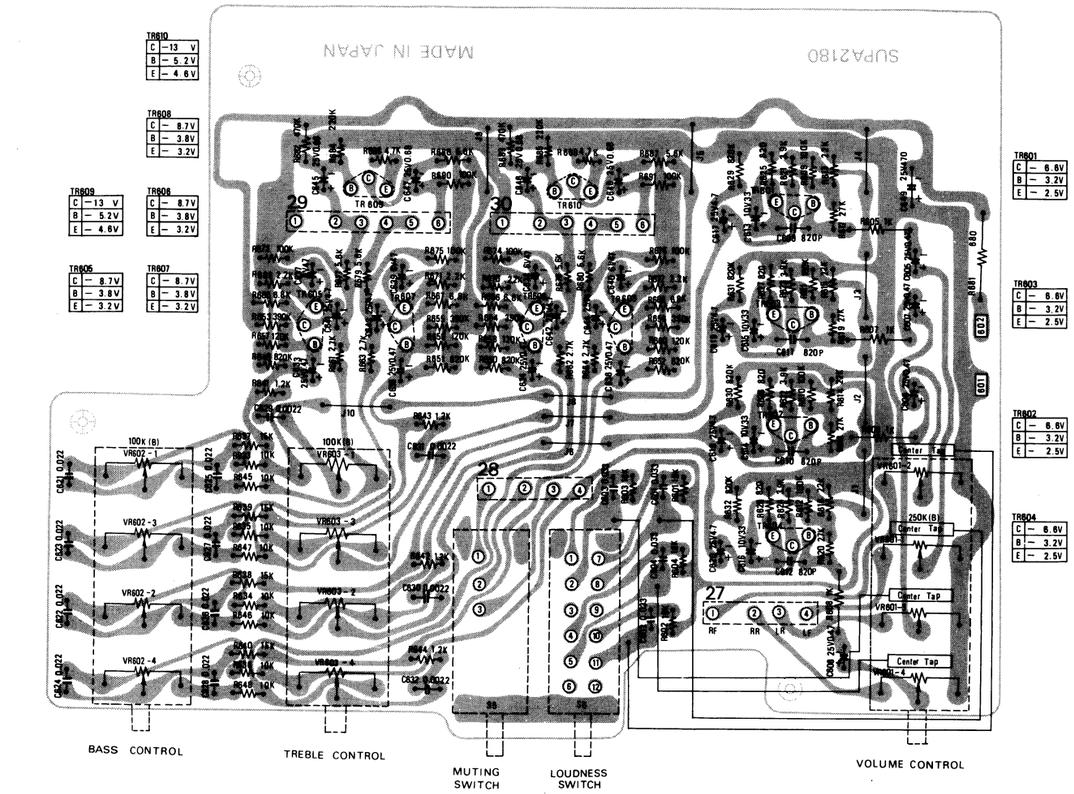
Top View



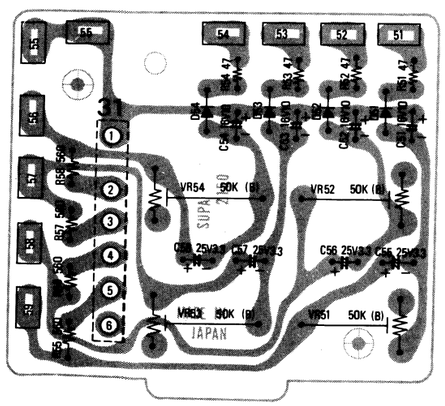
CONNECTING Circuit Board



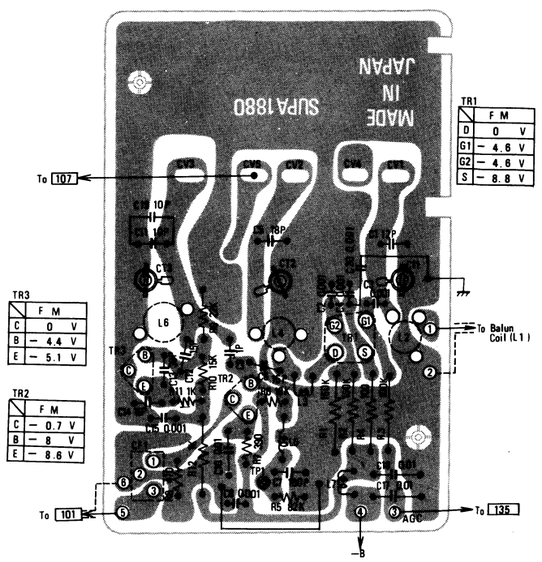
PHASE INVERT & TONE CONTROL Circuit Board



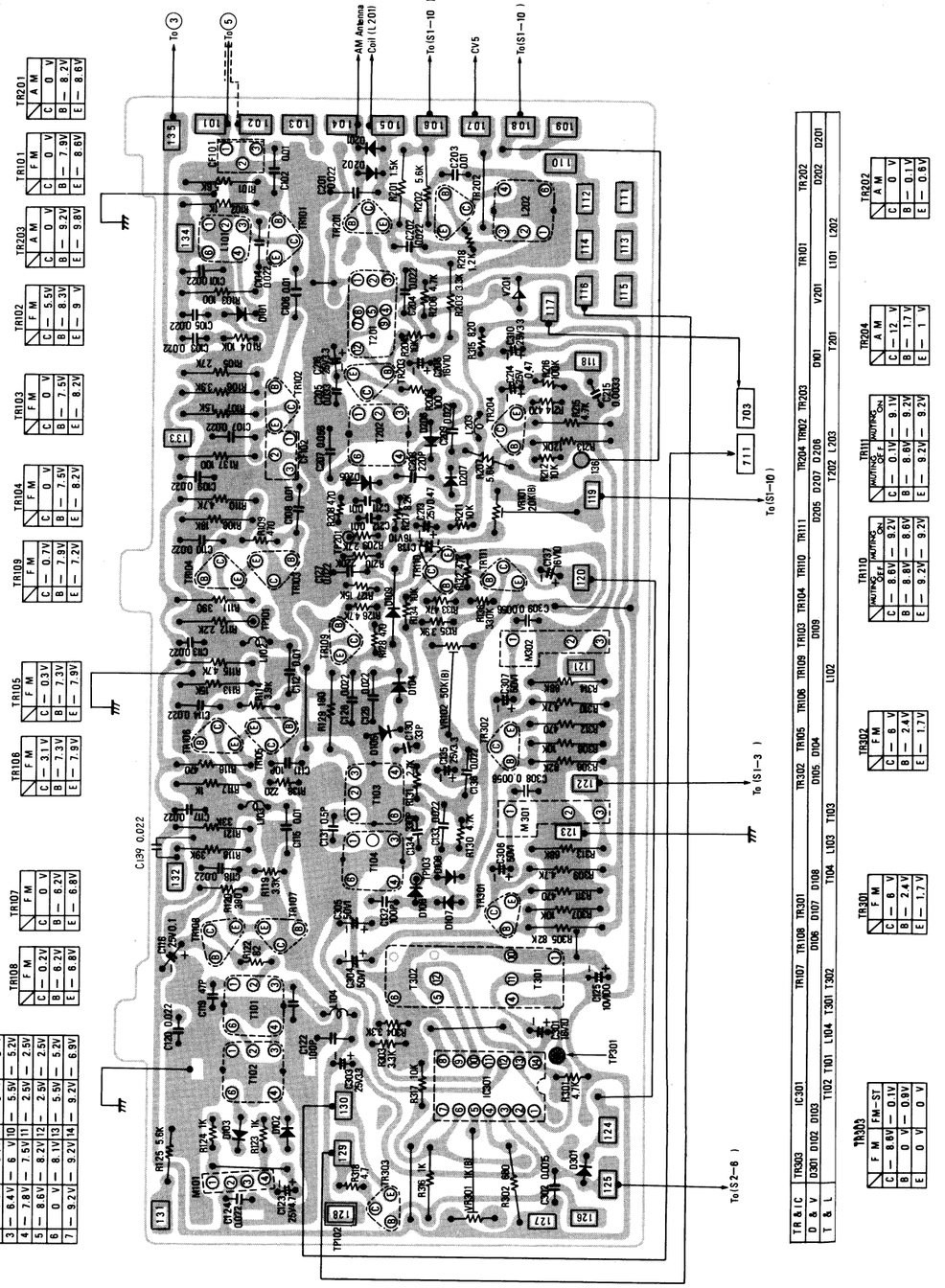
VU METER Circuit Board



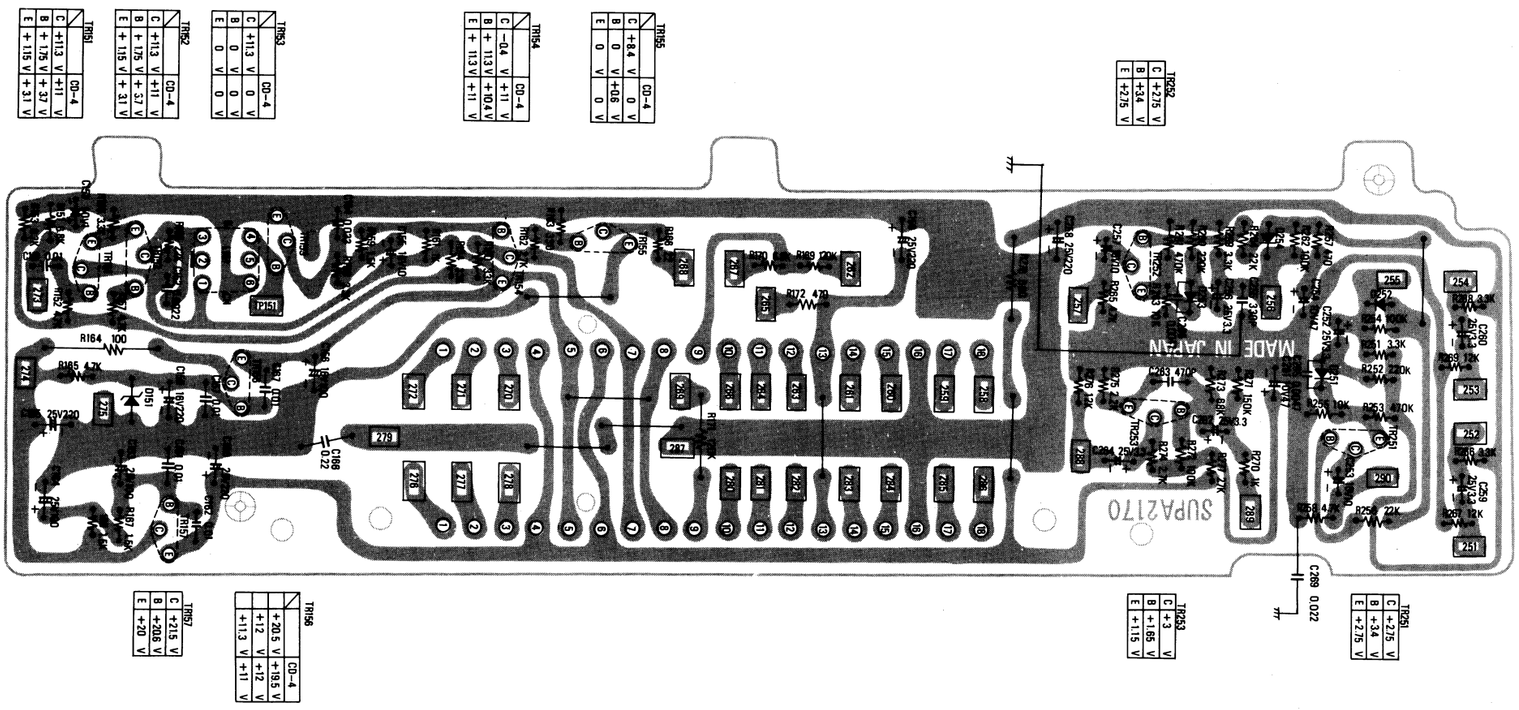
FM-RF Circuit Board



AM, FM-IF & FM MPX Circuit Board

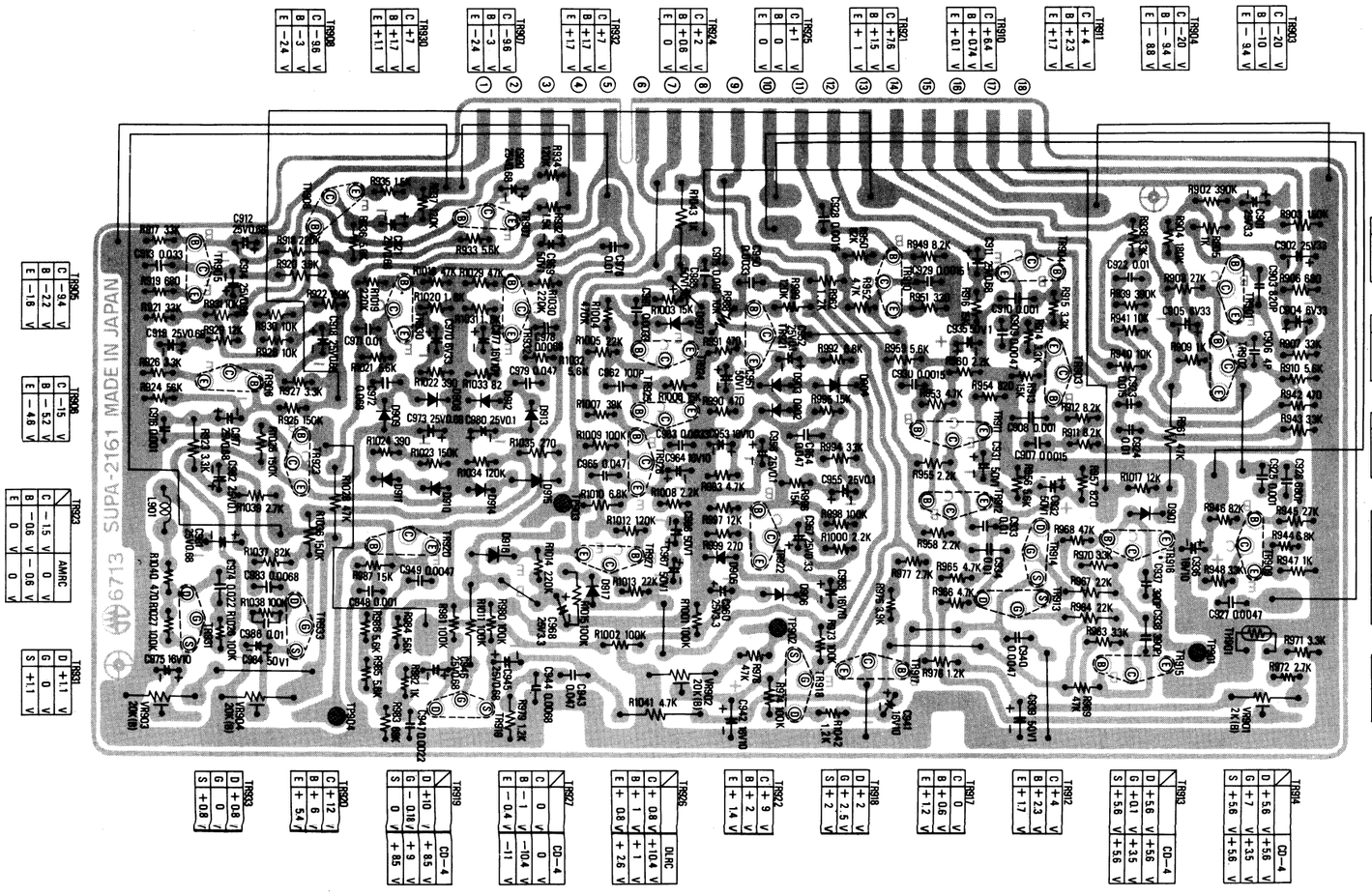


CD-4 MASTER Circuit Board

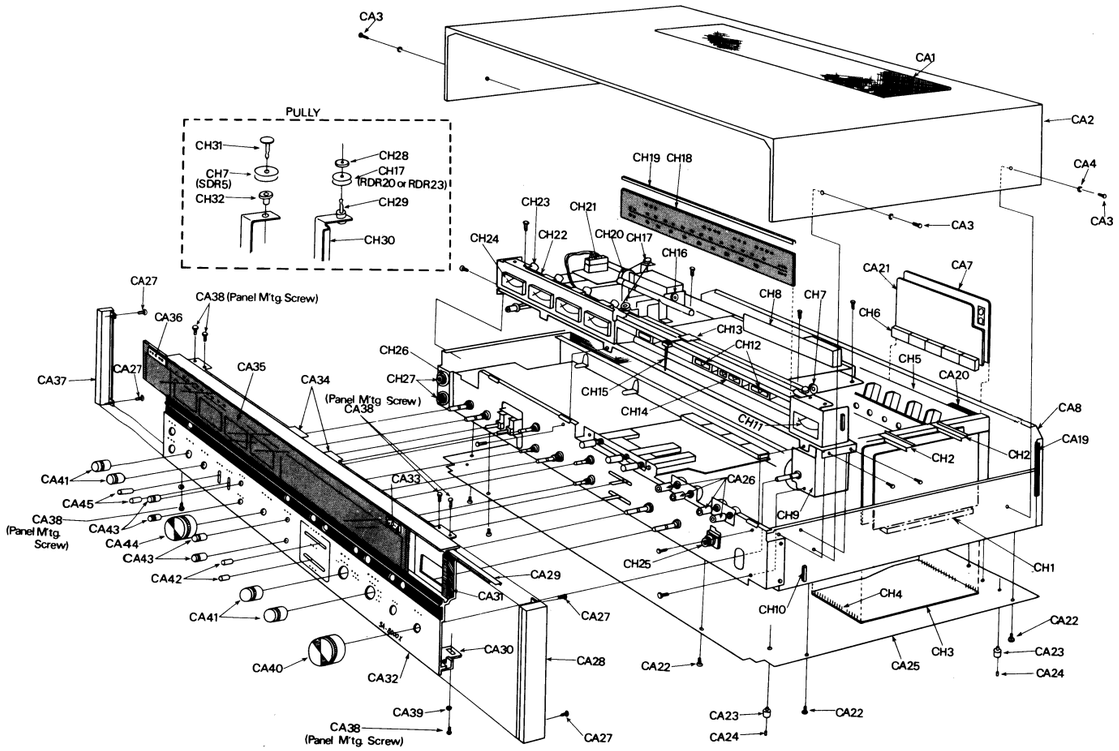


CD-4 DEMODULATOR (Left or Right) Circuit Board

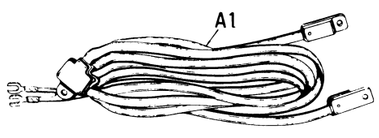
Left channel is same as Right channel

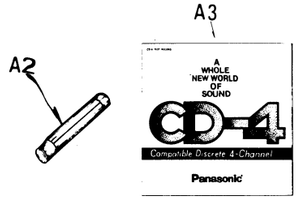


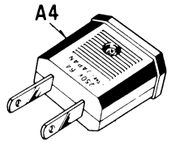
■ CABINET & CHASSIS PARTS LOCATION

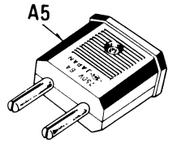


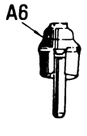
■ ACCESSORIES

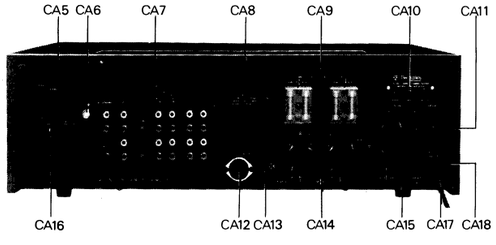












■ REPLACEMENT PARTS LIST

NOTES:

1. Part numbers are indicated on most mechanical parts. Please use this part number, for parts orders.
2. Ⓝ indicates the New Parts.
3. **X - Z** rank: **X** rank parts will cover 80% of repair needs.
   X + Y rank parts will cover 95% of repair needs.
   Z rank parts are less necessary.

Bemerkungen:

1. Die meisten mechanischen Teile sind mit Teilnummern versehen. Bitte geben Sie diese Nummern an, sofern die Teile keine Bezugsnummern haben.
2. Ⓝ bedeutet: Neue Teile.
3. Gruppen **X - Z**: Teile der Gruppe **X** machen 80% des Ersatzteilbedarfes aus. Teile der Gruppen **X** und **Y** machen 95% des Ersatzteilbedarfes aus. Teile der Gruppe **Z** werden seltener benötigt.

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
		INTEGRATED CIRCUIT		
IC301	SVIALA3300	MPX Circuit	1	X
		TRANSISTORS		
TR1	3SK39Q	FM RF Amplifier [FET]	1	X
TR2	2SC922M	FM Mixer	1	X
TR3	2SC839H	FM Oscillator	1	X
TR101, 102, 103, 104, 105, 106, 107, 108, 109, 201, 202, 203	2SC829C	FM IF Amp, Limiter, & FM Mix. AM OSC & AM IF Amplifier	12	X
TR110, 111, 151, 152, 153, 155, 713, 714, 715, 716, (909, 910, 911, 912, 915, 916, 921, 922, 924, 925, 926, 930, 932) x 2	2SC828R	Muting Amp, Thermal Compensation 30kHz Amp, Switching, Band Pass Filter, Defferential Amp, Voltage Control Oscillator, Static Lock Range Control & Dynamic Lock Range Control	36	X
TR154, (917, 923, 927) x 2	2SA564R	Switching, Buffer, Automatic Mixing Ratio Control	7	X
TR156, 157	2SC1383R	Ripple Filter	2	Ⓝ X
TR204, 301 302, 605, 606, 607, 608, 609, 610	2SA666Q	FM/AM AF Amp, Tone Amp, & Phase Inverter	9	X
TR251, 252, 253, (902, 920) x 2	2SC1327T	SC Shock Noise Cancel, Phase Inverter, 1/2 Equalizer & Low Pass Filter	7	Ⓝ X
TR303	2SA733MAP	Stereo Eye Switching	1	X
TR401, 402, 501, 502, 503, 504	2SA722T	Equalizer Mic Amp, & 4 ch. Matrix	6	X
TR403, 404	2SC1328T	Equalizer & Mic Amp.	2	X
TR601, 602, 603, 604, (901, 903, 904, 905, 906, 907, 908) x 2	2SA721T	Volume Control Flat Amp, Equalizer, Low Pass Filter, Matrix & AF Amp.	18	X
TR701, 702, 703, 704, 705, 706, 707, 708	2SA666A-AD3	Differential Amplifier	8	X
TR709, 710, 711, 712, 717, 718, 719, 720	2SC1384A-Q	Pre Driver Amplifier	8	X
TR721, 722, 723, 724	2SA684A-Q	Driver-Amplifier	4	X
TR725, 726, 727, 728, 729, 730, 731, 732	2SC789Y	Power Amplifier	8	X
TR801, 802	2SC828A-R	Speakers Protection Switching Amp.	2	X
TR803, 804 805	2SA684R	Switching & Ripple Filter	3	X
TR(913, 914, 918, 919, 931, 933) x 2	2SK30A	Phase Comparator, Lock Range Control, Median ANRS & High ANRS [FET]	12	Ⓝ X
		DIODES and VARIATITE		
D51,52,53, 54,702,804, 805,807	RVD10D1	VU Meter Detector, Shock Noise Cancel & Rectifier	8	X
D101,104,105, 106,107,201, 202,205,206, 207,301, (902,903,904, 905,906,907, 908,909,912, 913,916) x 2	OA99	AGC, AOC, AM Detector, Meter Detector & 30 kHz Rectifier	33	X
D102,103	2-OA99	FM Discriminator	1 pair	X
D108,109	1S1211	AOC, Meter Detector	2	X
D151	SVDAEQA0112R	Zener, 12V, Voltage Stabilizer	1	Ⓝ X
D251,252,253, 254,703,704 705,706, (901,917) x 2	MA150	30kHz Rectifier	12	X
D701	SVDEQA01-11R	Zener, 11V, Noise Cancel	1	X
D801,806	SVDAC08P-1	Rectifier	2	X
D802	SVDAS2HB10	Rectifier	1	X
D803	SVDAEQB01-09	Zener, 9V, Voltage Stabilizer	1	X
D(910,911,914 915) x 2	MA26-1	Thermal Compensation	8	X
V201	EYV320D1R2J3	Variatite, AOC	1	X
		COILS and TRANSFORMERS		
L1	SLAA4W1-1	Balun Coil	1	X
L2	SLAA4N9	FM Antenna Coil	1	X
L3	RLQY25S5	Choke Coil	1	Y
L4	SLDA4N18	FM DET Coil	1	X
L5	RLQY15G5	Choke Coil	1	Y
L6	SLOA4N9	FM OSC Coil	1	X
L7,8,102 103,104,203, 251,252,801	SLQX151-1Y	Choke Coil	9	Y
L101	SLIA4B1	FM AGC Coil	1	X
L151	SLMIC3T-1	30kHz Coil	1	X
L201	SLFA2E15	AM Antenna Coil	1	X
L202	SLOA2C6	AM OSC Coil	1	X
L(901) x 2	SLQAS903-1	Choke Coil	2	Ⓝ Y
T101	SLIA4C54	FM DISCRI IF Transformer (P)	1	X
T102	SLIA4C56	FM DISCRI IF Transformer (S)	1	X
T103,104	SLIA4C24	FM Muting IF Transformer (P),(S)	2	X
T201	RLI7W105S-T	AM 1st IF Transformer	1	X
T202	RLI2C450	AM 2nd IF Transformer	1	X
T301,(T302)	SLMAIZ2-K	19kHz, 38kHz Pick-up Transformer	1	X
T901	SLTA5Q16S	Power Transformer	1	Ⓝ X
		CERAMIC FILTERS		
CF1,101,102	RVFCF10M12CG	FM IF Circuit, Green (10.6MHz)	each 3	X
	RVFCF10M12CB	FM IF Circuit, Black (10.65MHz)		
	RVFCF10M12CR	FM IF Circuit, Red (10.7MHz)		
	RVFCF10M12CW	FM IF Circuit, White (10.75MHz)		
	RVFCF10M12CY	FM IF Circuit, Yellow (10.8MHz)		
		RESISTORS		
R4,103,137	ERD14TJ101	100Ω, ¼W ±5% Carbon	3	Y
R129	ERD14TJ181	180Ω, ¼W ±5% Carbon	1	Y
R111	ERD14TJ391	390Ω, ¼W ±5% Carbon	1	Y
R116,311,312	ERD14TJ471	470Ω, ¼W ±5% Carbon	3	Y
R278,302	ERD14TJ681	680Ω, ¼W ±5% Carbon	2	Y
R12,102,117, 316,605,606, 607,608, (1043) x 2	ERD14TJ102	1kΩ, ¼W ±5% Carbon	10	Y
R107,201	ERD14TJ152	1.5kΩ, ¼W ±5% Carbon	2	Y
R112	ERD14TJ222	2.2kΩ, ¼W ±5% Carbon	1	Y
R209	ERD14TJ272	2.7kΩ, ¼W ±5% Carbon	1	Y
R203	ERD14TJ332	3.3kΩ, ¼W ±5% Carbon	1	Y
R106	ERD14TJ392	3.9kΩ, ¼W ±5% Carbon	1	Y
R110,115,215, 309,310, (1041) x 2	ERD14TJ472	4.7kΩ, ¼W ±5% Carbon	7	Y
R101,125,202, 534,535	ERD14TJ562	5.6kΩ, ¼W ±5% Carbon	5	Y
R307,308	ERD14TJ103	10kΩ, ¼W ±5% Carbon	2	Y
R113	ERD14TJ153	15kΩ, ¼W ±5% Carbon	1	Y
R108,781,782, 783,784	ERD14TJ183	18kΩ, ¼W ±5% Carbon	5	Y
R105,417	ERD14TJ273	27kΩ, ¼W ±5% Carbon	2	Y
R121,428	ERD14TJ333	33kΩ, ¼W ±5% Carbon	2	Y
R118	ERD14TJ393	39kΩ, ¼W ±5% Carbon	1	Y
R(961,1028)x2	ERD14TJ473	47kΩ, ¼W ±5% Carbon	4	Y
R313,314	ERD14TJ683	68kΩ, ¼W ±5% Carbon	2	Y
R305,306,279, 280	ERD14TJ823	82kΩ, ¼W ±5% Carbon	4	Y
R3,(1011, 1015) x 2	ERD14TJ104	100kΩ, ¼W ±5% Carbon	5	Y
R171,213	ERD14TJ124	120kΩ, ¼W ±5% Carbon	2	Y
R1,2	ERD14TJ154	150kΩ, ¼W ±5% Carbon	2	Y

Ref. No.	Part No	Description	Per Set (Pcs.)	Remarks
R419	ERD14TJ394	390kΩ, ¼W ±5% Carbon	1	Y
R356	ERD14FJ2R2	2.2Ω, ¼W ±5% Carbon	1	Y
R318,753,754, 755,756,761, 762,763,764	ERD14FJ4R7	4.7Ω, ¼W ±5% Carbon	9	Y
R757,758,759, 760,765,766, 767,768	ERD14FJ221	220Ω, ¼W ±5% Carbon	8	Y
R733,734,735, 736	ERD14FJ561	560Ω, ¼W ±5% Carbon	4	Y
R812,814	ERD18FJ4R7	4.7Ω, ⅛W ±5% Carbon	2	Y
R786	ERD12FJ101	100Ω, ½W ±5% Carbon	1	Y
R164	ERD12TJ101	100Ω, ½W ±5% Carbon	1	Y
R351,352,353, 354	ERD12TJ221	220Ω, ½W ±5% Carbon	4	Y
R172	ERD12TJ471	470Ω, ½W ±5% Carbon	1	Y
R681	ERD12TJ681	680Ω, ½W ±5% Carbon	1	Y
R810	ERD14FJ120	12Ω, ¼W ±5% Carbon	1	Y
R166	ERD14VJ220	22Ω, ¼W ±5% Carbon	1	Y
R51,52,53,54	ERD14VJ470	47Ω, ¼W ±5% Carbon	4	Y
R813	ERD14FJ680	68Ω, ¼W ±5% Carbon	1	Y
R122, (1033) x 2	ERD14VJ820	82Ω, ¼W ±5% Carbon	3	Y
R205,806	ERD14VJ101	100Ω, ¼W ±5% Carbon	2	Y
R138	ERD14VJ221	220Ω, ¼W ±5% Carbon	1	Y
R741,742,743, 744, (999, 1035) x 2	ERD14VJ271	270Ω, ¼W ±5% Carbon	8	Y
R163,(951)x2	ERD14VJ331	330Ω, ¼W ±5% Carbon	3	Y
R7,120,415, 416,(1022, 1024) x 2	ERD14VJ391	390Ω, ¼W ±5% Carbon	8	Y
R8,109,128, 208,214,257, (942,990,991, 1040)x2	ERD14VJ471	470Ω, ¼W ±5% Carbon	14	Y
R55,56,57,58, 749,750,751, 752	ERD14VJ561	560Ω, ¼W ±5% Carbon	8	Y
R429,501, (906,919)x2	ERD14VJ681	680Ω, ¼W ±5% Carbon	6	Y
R315,625,626, 627,628,717, 718,719,720, 729,730,731, 732 (954, 957)x2	ERD14VJ821	820Ω, ¼W ±5% Carbon	17	Y
R11,123,124, 161,270,421, 422,504,505, 705,706,707, 708,745,746, 747,748,785, (905,909,947, 982)x2	ERD14VJ102	1kΩ, ¼W ±5% Carbon	26	Y
R218,407,408, 641,642,643, 644,(962,976, 979,1042)x2	ERD14VJ122	1.2kΩ, ¼W ±5% Carbon	15	Y
R159,167,168, 804,(932, 935)x2	ERD14VJ152	1.5kΩ, ¼W ±5% Carbon	8	Y
R(1020, 1031)x2	ERD14VJ182	1.8kΩ, ¼W ±5% Carbon	4	Y
R275,669,670, 671,672,(955, 958,960,1000, 1008)x2	ERD14VJ222	2.2kΩ, ¼W ±5% Carbon	15	Y
R131,162,274, 661,662,663, 664,721,722, 723,724, (972,977, 1039)x2	ERD14VJ272	2.7kΩ, ¼W ±5% Carbon	17	Y
R119,156,158, 251,259,266, 268,303,304, 809,(914,915, 923,926,927, 943,948,963, 970,971)x2	ERD14VJ332	3.3kΩ, ¼W ±5% Carbon	30	Y
R114,135,527, 621,622,623, 624,737,738, 739,740, (920,975)x2	ERD14VJ392	3.9kΩ, ¼W ±5% Carbon	15	Y
R126,130,152, 157,165,206, 258,265,301, 525,688,689, (952,953,965, 966,993)x2	ERD14VJ472	4.7kΩ, ¼W ±5% Carbon	22	Y
R207,677,678, 679,680,686, 687,(910,933, 936,956,959, 985,986,1021, 1032)x2	ERD14VJ562	5.6kΩ, ¼W ±5% Carbon	25	Y
R151,170,423, 424,665,666, 667,668,(944, 992,1010)x2	ERD14VJ682	6.8kΩ, ¼W ±5% Carbon	14	Y
R153,217,510, 511,(911,912, 949)x2	ERD14VJ822	8.2kΩ, ¼W ±5% Carbon	10	Y
R104,134,204, 211,212,255, 263,317,512, 513,526,528, 529,633,634, 635,636,645, 646,647,648, 713,714,715, 716,845, (928,930,931, 940,941,988) x2	ERD14VJ103	10kΩ, ¼W ±5% Carbon	38	Y
R267,269,276, (929,997, 1017)x2	ERD14VJ123	12kΩ, ¼W ±5% Carbon	9	Y
R9,127,530, 637,638,639, 640,811, (913,916,987, 995,996,1003, 1006)x2	ERD14VJ153	15kΩ, ¼W ±5% Carbon	22	Y
R6,514,515, 601,602,603, 604	ERD14VJ183	18kΩ, ¼W ±5% Carbon	7	Y
R10,155,170, 256,264,(964 967,1005 1013)x2	ERD14VJ223	22kΩ, ¼W ±5% Carbon	13	Y
R613,614,615, 616	ERD14VSJ223	22kΩ, ¼W ±5% Carbon	4	Y
R617,618,619, 620	ERD14VSJ273	27kΩ, ¼W ±5% Carbon	4	Y
R277,418,803, (908,945)x2	ERD14VJ273	27kΩ, ¼W ±5% Carbon	7	Y
R154,160,411, 412,802,(907, 938,994)x2	ERD14VJ333	33kΩ, ¼W ±5% Carbon	11	Y
R(917,921)x2	ERD14VSJ333	33kΩ, ¼W ±5% Carbon	4	Y
R132,133,409, 410,801,(968, 969,978,1018 1029)x2	ERD14VJ473	47kΩ, ¼W ±5% Carbon	15	Y
R520,536,709, 710,711,712, 725,726,727, 728,(924, 984)x2	ERD14VJ563	56kΩ, ¼W ±5% Carbon	14	Y
R273,(983)x2	ERD14VJ683	68kΩ, ¼W ±5% Carbon	3	Y
R5,(946, 950, 1037)x2	ERD14VJ823	82kΩ, ¼W ±5% Carbon	7	Y
R216,254,262, 272,427,637, 674,675,676, 690,691,701, 702,703,704 (973,974,980, 981,998,1001, 1002,1009, 1026,1027 1038)x2	ERD14VJ104	100kΩ, ¼W ±5% Carbon	37	Y
R508,509,609, 610,611,612	ERD14VSJ104	100kΩ, ¼W ±5% Carbon	6	Y
R405,406,657, 658,659,660	ERD14VSJ124	120kΩ, ¼W ±5% Carbon	6	Y
R169,425,426, (934,937,989, 1012,1034)x2	ERD14VJ124	120kΩ, ¼W ±5% Carbon	13	Y
R271,516,517, 518,519,531, 532,537,(925, 1023,1025, 1036)x2	ERD14VJ154	150kΩ, ¼W ±5% Carbon	16	Y
R(903,922)x2	ERD14VSJ154	150kΩ, ¼W ±5% Carbon	4	Ⓝ Y
R506,507,523, 524,(904)x2	ERD14VSJ184	180kΩ, ¼W ±5% Carbon	6	Y
R684,685, (918)x2	ERD14VSJ224	220kΩ, ¼W ±5% Carbon	4	Y
R210,252,260, (1014,1019, 1030)x2	ERD14VJ224	220kΩ, ¼W ±5% Carbon	9	Y
R502,503	ERD14VJ274	270kΩ, ¼W ±5% Carbon	2	Y
R413,414	ERD14VSJ274	270kΩ, ¼W ±5% Carbon	2	Y
R(1007)x2	ERD14VJ393	39kΩ, ¼W, ±5% Carbon	2	Y

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
R521,522,653, 654,655,656, (902)x2	ERD14VSJ394	390kΩ, ¼W ±5% Carbon	8	Y
R420,(939)x2	ERD14VJ394	390kΩ, ¼W ±5% Carbon	3	Y
R136,253,261, 533,(1004)x2	ERD14VJ474	470kΩ, ¼W ±5% Carbon	6	Y
R682,683	ERD14VSJ474	470kΩ, ¼W ±5% Carbon	2	Y
R403,404	ERD14VSJ824	820kΩ, ¼W ±5% Carbon	2	Y
R629,630,631, 632,649,650, 651,652	ERD14VJ824	820kΩ, ¼W ±5% Carbon	8	Y
R769,770,771, 772,773,774, 775,776	ERX2ANKR33	0.33Ω, 2W ±10% Metallic	8	Y
R777,778,779 780	ERX1ANJ100	10Ω, 1W, ±5%, Metallic	4	Y
R807	ERM2P201	200Ω, 2W, ±5% Wire	1	Z
R808	ERM4P271	270Ω, 4W, ±5%, Wire	1	Z

VARIABLE RESISTORS

VR1	EVB17AA1654U	50kΩ (ZU), AFD Control (WIDTH)	1		X
VR2-1,2-2	EVA77AA16D55	500kΩ (D), AFD Control (DEPTH)	1		X
VR3,4,5,6	EVHB8A034BF5	250kΩ (B), Channet Level Control	4		X
VR7,8	EVHB8A018B14	10kΩ (B), Carrier Level Control	2	(N)	X
VR9,10	EVHB8A018B54	50kΩ (B), CD-4 Separation Control	2	(N)	X
VR51,52,53, 54,102	EVLS3AA00B54	50kΩ (B), VU Meter & Muting Level Adj.	5		X
VR101	EVLS3AA00B24	20kΩ (B), Signal Meter Adjustment	1		X
VR601-1 ~ 601-4	EVB83A030BF5	250kΩ (B), Main Volume Control	1		X
VR602-1 ~ 602-4 VR603-1 ~ 603-4	EVB84A030B15	100kΩ (B) Bass & Treble Control	2		X
VR301,701 702,703 704	EVLS3AA00B13	1kΩ (B), FM Separation & DC Balance Adjustment	5		X
VR705,706, 707,708	EVLS3AA00B52	500Ω (B), ICQ Adjustment	4		X
VR(901)x2	EVLS0AA00B23	2kΩ (B), Free Running Frequency Adjustment	2		X
VR(902,903 904)x2	EVLS0AA00B24	20kΩ (B), Lock Range Control & Automatic Noise Reduction System Adj.	6		X

THERMISTORS

TH701,702 703,704	RRT251	Driver Circuit	4	Y
TH(901)x2	RRTA202-2	Phase Locked Loop Circuit	2	Y

CAPACITORS

C131	ECCD1HOR5CC	0.5pF, 50WV, ±0.25pF, Ceramic	1	Z
C9	ECCD1H010CC	1pF, 50WV, ±0.25pF, Ceramic	1	Z
C(906)x2	ECCD1H040CC	4pF, 50WV, ±0.25pF, Ceramic	2	Z
C217	ECCD1H050CC	5pF, 50WV, ±0.25pF, Cermic	1	Z
C111	ECCD1H100KC	10pF, 50WV, ±10%, Ceramic	1	Z
C11	ECCD1H100KU	10pF, 50WV, ±10%, Ceramic	1	Z
C19	ECCD1H100KT	10pF, 50WV, ±10%, Ceramic	1	Z
C1	ECCD1H120KC	12pF, 50WV ±10%, Ceramic	1	Z
C6,12,14	ECCD1H150KC	15pF, 50WV, ±10%, Ceramic	3	Z
C5	ECCD1H180KC	18pF, 50WV, ±10%, Ceramic	1	Z
C130	ECCD1H330KC	33pF, 50WV, ±10%, Ceramic	1	Z
C13	ECCD1H390KC	39pF, 50WV, ±10%, Ceramic	1	Z
C119	ECCD1H470KU	47pF, 50WV, ±10%, Ceramic	1	Z
C717,718,719 720	ECCD1H560K	56pF, 50WV ±10%, Ceramic	4	Z
C121,122,132, (962)x2	ECCD1H101K	100pF, 50WV, ±10%, Ceramic	5	Z
C420	ECCD1H121K	121pF, 50WV, ±10%, Ceramic	1	Z
C405,406	ECCD1H151K	150pF, 50WV, ±10%, Ceramic	2	Z
C7	ECCD1H181K	180pF, 50WV, ±10%, Ceramic	1	Z
C208	ECCD1H221K	220pF, 50WV, ±10%, Ceramic	1	Z
C134,251,255, 421,705,706, 707,708	ECCD1H331K	330pF, 50WV, ±10%, Ceramic	8	Z
C263,356	ECKD1H471KB	470pF, 50WV, ±10%, Ceramic	2	Z
C(926)x2	ECKD1H681KB	680pF, 50WV, ±10%, Ceramic	2	Z
C407,408,609, 610,611,612, (903)x2	ECKD1H821KB	820pF, 50WV, ±10%, Ceramic	8	Z
C2,3,48,15,20	ECKD1H102PF	0.001μF, 50WV, +100 −0 %, Ceramic	6	Z
C732,733,734 735	ECKE1H102MD	0.001μF, 50WV, ±20%, Ceramic	4	Z

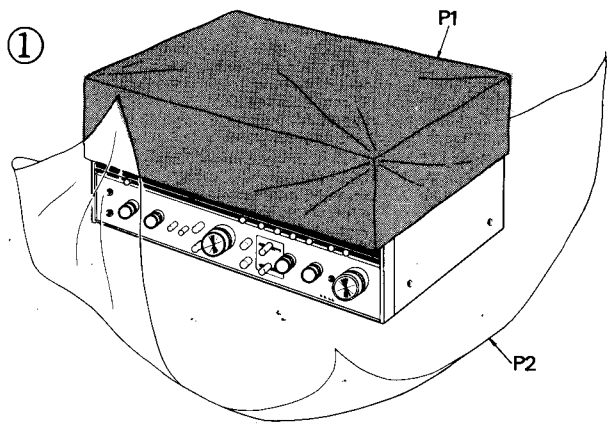
Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
C10,17,18,102, 106,108,112, 115,157,161, 162,167,809, 810,813,814, 820	ECKE1H103PF	0.01μF, 50WV, +100 −0 %, Ceramic	17	Z
C817	ECKD2H103PF	0.01μF, 500WV, +100 −0 %, Ceramic	1	Z
C104,107,110, 114,120,126, 129,133,136, 201,204,209 269	ECKE1H223PF	0.022μF, 50WV, +100 −0 %, Ceramic	13	Z
C823,824,826	ECKD1H473ZF	0.047μF, 50WV, +80 −20 %, Ceramic	3	Z
C(908,910,915, 916,925,948) x2	ECQG05102KZN	0.001μF, 50WV, ±10%, Polyester	12	Z
C302,(907,928, 929,930)x2	ECQG05152KZN	0.0015μF,50WV, ±10%, Polyester	9	Z
C629,630,631, 632,(947)x2	ECQG05222KZN	0.0022μF,50WV, ±10%, Polyester	6	Z
C411,412	ECQG05272JZN	0.0027μF,50WV, ±5%, Polyester	2	Z
C215,(950,961, 963)x2	ECQG05332KZN	0.0033μF,50WV, ±10%, Polyester	7	Z
C265,266,(909, 927,940, 949)x2	ECQG05472KZN	0.0047μF, 50WV, ±10%, Polyester	10	Z
C308,309	ECQG05562JZN	0.0056μF, 50WV, ±5%, Polyester	2	Z
C(944,978 983)x2	ECQG05682KZN	0.0068μF,50WV, ±10%, Polyester	6	Z
C413,414	ECQG05822JZN	0.0082μF,50WV, ±5%, Polyester	2	Z
C151,203,211, 212,515,(933, 934,971,976, 986)x2	ECQG05103KZN	0.01μF, 50WV, ±10%, Polyester	13	Z
C(922,924)x2	ECQG05103JZN	0.01μF, 50WV, ±5%, Polyester	4	Z
C(923)x2	ECQG05153JZN	0.015μF, 50WV, ±5%, Polyester	2	Z
C101,103,105 109,113,117, 118,124,127, 139,202,621, 622,623,624, 625,626,627, 628,(974)x2	ECQG05223KZN	0.022μF, 50WV, ±10% Polyester	21	Z
C154,205,601, 602,603,604 (913)x2	ECQG05333KZN	0.033μF, 50WV, ±10%, Polyester	8	Z
C513,514,(943, 954,965,979) x2	ECQG05473KZN	0.047μF, 50WV, ±10%, Polyester	10	Z
C725,726,727, 728	ECQM05473KZ	0.047μF, 50WV, ±10%, Polyester	4	Z
C207	ECQG05563KZN	0.056μF, 50WV, ±10%, Polyester	1	Z
C(972)x2	ECQG05683KZN	0.068μF, 50WV, ±10%, Polyester	2	Z
C166	ECQG05224KZN	0.22μF, 50WV, ±10%, Polyester	1	Z
C352,353	ECQU2A103MD	0.01μF, 250VAC, ±20%, Polyester	2	Z
C(937,938)x2	ECQS1391KZ-K	390pF, 125WV, ±10%, Styro	4	(N) Z
C152	ECQS1222JZ	2200pF, 125WV, ±5%, Styro	1	Z
C252,256,259, 260,262,264, 267,268,403, 404,506,507, (901)x2	ECSZ25EF3R3	3.3μF, 25WV, Electrolytic	14	Y
C419,617,618, 619,620,641, 642,643,644,	ECSZ25EF4R7	4.7μF, 25WV, Electrolytic	9	Y
C417,418	ECSZ35EFR47	0.47μF, 35WV, Electrolytic	2	Y
C116,213,214, (952,955,956, 980,982)x2	ECAG25ER1X	0.1μF, 25WV, Electrolytic	13	Y
C(957)x2	ECAG25ER33X	0.33μF, 25WV, Electrolytic	2	Y
C504,505,508 509,510,511, 512,605,606, 607,608,633, 634,635,636	ECAG25ER47X	0.47μF, 25WV, Electrolytic	15	Y
C502,503,645, 646,647,648, (911,912,914, 917,918,919, 920,921,945, 946,973,981) x2	ECAG25ER68X	0.68μF, 25WV, Electrolytic	30	Y
C(904,905, 970)x2	ECEA6V33	33μF, 6.3WV, Electrolytic	6	Y
C409,410,637, 638,639,640, 709,710,711, 712	ECEA6V47	47μF, 6.3WV, Electrolytic	10	Y
C351	ECEA6V100	100μF, 6.3WV, Electrolytic	1	Y
C415,416,613, 614,615,616	ECEA10V33	33μF, 10WV, Electrolytic	6	Y

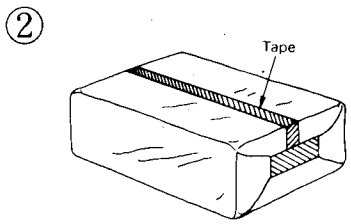
Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
C254,261	ECEA10V47	47μF, 10WV, Electrolytic	2	Y
C125	ECEA10V100	100μF, 10WV, Electrolytic	1	Y
C801	ECEA10V220	220μF, 10WV, Electrolytic	1	Y
C821,822,825	ECEA10V470	470μF, 10WV, Electrolytic	3	Y
C51,52,53,54, 137,138,155, 206,253,257, 301,(936,941, 942,953,958, 964,975,977) x2	ECEA16V10	10μF, 16WV, Electrolytic	27	Y
C808	ECEA16V47	47μF, 16WV, Electrolytic	1	Y
C156	ECEA16V100	100μF, 16WV, Electrolytic	1	Y
C158	ECEA16V220	220μF, 16WV, Electrolytic	1	Y
C55,56,57,58, 135,216,303, (960,968)x2	ECEA25V3R3	3.3μF, 25WV, Electrolytic	11	Y
C123	ECEA25V4R7	4.7μF, 25WV, Electrolytic	1	Y
C310,401,402, 803,(902)x2	ECEA25V33	33μF, 25WV, Electrolytic	6	Y
C713,714,715, 716,721,722, 723,724	ECEA25V47	47μF, 25WV, Electrolytic	8	Y
C163,164	ECEA25V100	100μF, 25WV, Electrolytic	2	Y
C159,160,165, 258,818	ECEA25V220	220μF, 25WV, Electrolytic	5	Y
C649	ECEA25V470	470μF, 25WV, Electrolytic	1	Y
C819	ECEA25V1000	1000μF, 25WV, Electrolytic	1	Y
C729	ECEA35V220	220μF, 35WV, Electrolytic	1	Y
C153,304,305, 306,307,701, 702,703,704, (931,932,935, 939,951,966, 967,969,984, 985)x2	ECEA50V1	1μF, 50WV, Electrolytic	29	Y
C357,358,422, 501,730,811, 815	ECEA50V100	100μF, 50WV, Electrolytic	7	Y
C812	ECEA50V330	330μF, 50WV, Electrolytic	1	Y
C816	ECEA50V470	470μF, 50WV, Electrolytic	1	Y
C804,805	ECET35R4700Y	4700μF, 35WV, Electrolytic	2	Y
VARIABLE CAPACITORS				
CV1,2,3,4,5 (CT4,5)	ECV5MX25X14G	Tuning Gang, FM/AM (Trimmer, AM ANT & AM OSC)	1	X
CT1,2	ECV1ZW10P32	Trimmer, FM ANT & FM DET, 10pF Type	2	X
CT3	ECV1ZW06P35	Trimmer, FM OSC, 6pF Type	1	X
COMPONENT COMBINATIONS				
M101	EXA5DLO4C	FM Disriminator Circuit	1	X
M301,302	SXAM675F	Low Pass Filter, 19kHz & 38kHz	2	X
M801,802,803, 804	RXAF103P22HD	Hum Cancel, 0.01μF(x2), 500WV	4	Y
SWITCHES				
S1-1 ~ S1-12	SSRA51	Selector Switch	1	Ⓝ X
S2-1 ~ S2-8	SSRA50	Mode Switch	1	Ⓝ X
S3-1 ~ S3-4, S4-1 ~ S4-4, S11-1~S11-4	SSHA37S	Tape Monitor 1 Switch, Tape Monitor 2 Switch, VU Meter Range Switch	1	Ⓝ X
	SBCA44	Button (Not Available Order SSHA37S)	(3)	
S5	SSLA18S	Muting Switch	1	X
S6-1 ~ S6-4	SSLA19S	Loudness Switch	1	X
S7-1 ~ S7-4	————	Balanced Transformerless Switch Refer to Ref. No. CA13	1	
S8-1,S8-2	ESB7025	Power Source Switch Only	1	X
S9	————	Carrier Level Adjustment Switch Refer to Ref. No. CA5	1	
S10-1 ~ S10-4	SSRA52	Cartridge Selector Switch	1	Ⓝ X
S12-1 ~ S12-4	SSRA7S	Voltage Selector Switch	1	X
SPEAKER PROTECTION RELAY				
	SSYA1	Relay, Speaker Protection	1	X
FUSES				
F1,2,3,4	XBAS1A3001	3A, Circuit Protection	4	X
F801	XBAS1B3001	3A, Power Source	1	X
F802	XBA1K40NS5	4A, Power Source	1	X
F803	XBAS1B2002	2A, Power Source	1	X
LIGHTS				
PL1,2,3,4,5,6, 7,8,9,	XAM35K	Meter & Dial Lamp. (6.3V 0.25A)	9	X
PL10	XAMR33S400	Pointer Lamp. (6.3V 75mA)	1	X
PL11,12,13	XAM37K250	Stereo & Channel Indicator. (7.5V 75mA)	3	X
PL14,15	XAM37K75	CD-4 Indicator & 4 ch. Radar (7.5V 75mA)	2	X
CABINET PARTS				
	SKAA630	Cabinet, Complete	1	Ⓝ Y
CA1	SKPA3	Hole, Ventilation } Not Available	(1)	
CA2	SKMA190	Wooden Cabinet } Order SKAA630	(1)	
CA3	XSB4+16BVCS	Screw, Cabinet M'tg.	4	Z
CA4	SNTA502	Washer, Cabinet M'tg.	4	Z
	SYPA191AS	Rear Panel, Complete	1	Ⓝ Y
CA5	SSSA6S	Switch, Carrier Level (S9)	1	Ⓝ Y
CA6	SNEA404	Nut, Ground Terminal (Outer)	1	Z
	SNEA204-2S	Volt, Ground Terminal	1	Z
CA7	SJFA3012	Termial, PHONO, AUX, Tape Monitor 1&2, 4 CH MPX OUT	1	Z
CA8	SGPA330B	Rear Panel Only	1	Ⓝ Z
CA9	SJFA5201	Holder, Circuit Protection Fuses	2	Z
CA10	SGTA1550	Name Plate	1	Ⓝ Z
CA11	SJFA4401	Terminal, FM/AM Ext. Antenna	1	Z
CA12	RJS7A	Socket, 4ch. Remote Balancer	1	Z
CA13	SSSA7S	Switch, Balanced Transformerless (S7)	1	Ⓝ Y
CA14	SJFA4806	Terminal, Speakers	1	Z
CA15	SJSA1	Socket, AC Outlet	2	Z
	SMKA3S	Mounting, AC Outlet	1	Z
CA16	SBSA7	Knob, Cartridge Selector Switch	1	Ⓝ X
	SJFA5202	Cap, Protection Fuse Holder	2	Z
	XSN26+12	Screw, Protection Fuse Holder Cap	2	Z
CA17	SJAA3	Cord, AC Power Source	1	Z
CA18	RHR111	Bushing, AC Cord	1	Z
CA19	SHGA906	Rubber Cushion, Rear Panel	2	Z
CA20	SHGA639	Rubber Cushion, Rear Panel	2	Z
CA21	SUPA1980	Printed Circuit Board Only	1	Z
CA22	XTV3D8CR	Red Screw, Bottom Board M'tg.	10	Z
	SYUA71A	Bottom Board, Complete	1	Ⓝ Z
CA23	SKLA2-1	Leg, Bottom Board	4	Z
CA24	SHEA3-1	Lock Pin, Leg	4	Z
CA25	SKUA330-2	Bottom Board Only (Order SYUA71A)	(1)	
CA26	SBNA113	Knob, Carrier & Separation Control	4	Ⓝ X
	SYWA111A	Front Panel, Complete	1	Ⓝ Y
CA27	XTV3D8C	Screw, Panel M'tg.	12	Z
CA28	SGXA54	Side Panel, Right	1	Ⓝ Z
CA29	SUSA42-2	Spring, Dial Panel	2	Z
CA30	SULA45	Mounting, Panel, Right Side	1	Ⓝ Z
	SULA43	Mounting, Panel, Left Side	1	Ⓝ Z
CA31	SHGA969	Rubber, Panel	2	Ⓝ Z
CA32	SGWA1120	Panel (Order SYWA111A)	(1)	
CA33	SGBA45	Badge, CD-4	1	Ⓝ Z
CA34	SULA42	Mounting, Panel	2	Ⓝ Z
CA35	SGUA14	Panel, Dial	1	Ⓝ Z
CA36	SGBA46	Badge, National Technics	1	Z
CA37	SGXA55	Side Panel, Left	1	Ⓝ Z
CA38	XTV3D8CK	Black Screw, Panel & Tuner M'tg.	16	Z
CA39	XWG3F10	Washer, Panel M'tg.	2	Z
CA40	SBNA111	Knob, Tuning Control	1	Ⓝ X
CA41	SBNA103	Knob, Mode, Selector, Bass & Treble	4	X
CA42	SBDA1	Knob, AFD Control	2	X
CA43	SBNA101	Knob, Channel Level Control	4	X
CA44	SBNA102	Knob, Main Volume Control	1	X
CA45	SBLA2	Button, Lever Switch	2	X
	SBCA47	Button, Power Source Switch	1	X
CHASSIS				
CH1	SJSA5	Socket, CD-4 Demodulator P.C.B.	2	Z
CH2	SULA44	Mounting, CD-4 Demodulator P.C.B.	2	Ⓝ Z
CH3	SUPA2000	Printed Circuit Board Only	1	Z
CH4	SJTA307	Pin Terminal, Circuit Connection	160	Z
CH5	SMYA36	Heat Sink, Power Transistor	1	Z
CH6	SJSA65	Socket, Circuit Connection Pin Terminal	17	Z
CH7	SDR5	Pulley, Dial Cord	4	Z
CH8	SMCA83-1	Shield Plate, FM-IF P.C.B.	1	Z
	SDTA5S	Tuning Shaft, Complete	1	Ⓝ Z
CH9	SDXA304	Mounting } Not Available	(1)	
	SDTA6005	Shaft Only } Order SDTA5S	(1)	
	SDXA705S	Flywheel } Order SDTA5S	(1)	
CH10	SHGA624	Rubber Cushion, Cabinet	½	Z
CH11	SSMA19-2	Meter, Signal Strength	1	X
CH12	SHGA202	Bracket, Stereo Eye, 4CH/2CH Indicator	3	Z

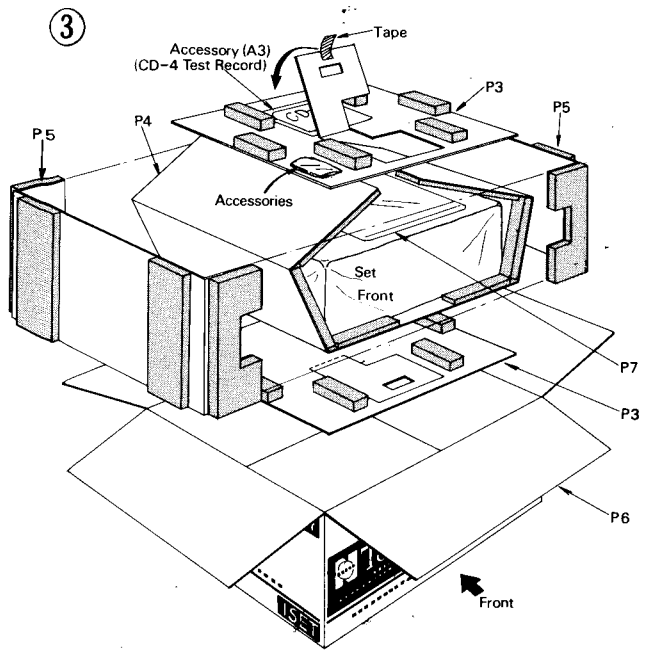
Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
CH13	SDPA1009	Slider, Dial Pointer	1	Y
CH14	SHGA203	Bracket, CD-4 Eye & CD-4 Indicator	1	Ⓝ Z
CH15	SDPA5018	Pointer Only, Dial	1	Y
CH16	RHG5-1	Rubber Cushion, Variable Capacitor	1	Z
CH17	RDR20	Pulley, Dial Cord, Small Size	2	Z
	RDR23	Pulley, Dial Cord, Large Size	1	Z
CH18	SKDA360	Scale, Dial	1	Ⓝ Y
CH19	SUMA7	Mounting, Dial Scale	1	Ⓝ Z
CH20	SDDA321S	Drum, Dial Cord	1	Ⓝ Z
	SDSA4141	Spring, Dial Cord	1	Z
	XXAR3H6S	Screw, Durm M'tg.	2	Z
	RDZ05-5	Cord, Dial, 160cm (63-1/8")	1 roll	Z
CH21	SJSA64	Socket, Circuit Connection, 6 pin	3	Z
	SJSA63	Socket, Circuit Connection, 4 pin	10	Z
CH22	SHGA635	Rubber Cushion, VU Meter	1	Ⓝ Z
CH23	RJV1A	Holder, Meter Light	5	Z
CH24	SSMA21	Volume Unit (Output Level) Meter	4	Ⓝ X
CH25	SJJA13	Jack, Microphone	1	Z
CH26	SNWA121	Nylon Sheet, Mic & Headphone Jack	3	Ⓝ Z
CH27	SJJA14	Jack, Headphones	2	Z
CH28	RNW150-2	Lock Washer, Pulley	3	Z
CH29	RDY34	Shaft, Small Pulley	2	Z
	RDY32	Shaft, Large Pulley	1	Z
CH30	SURA6	Mounting, Pulley	1	Z
CH31	SDY11	Shaft, Pulley Lock	4	Z
CH32	SDY9	Bracket, Pulley & Pulley Shaft	4	Z
	SJSA202	Holder, Dial Light	1	Ⓝ Z

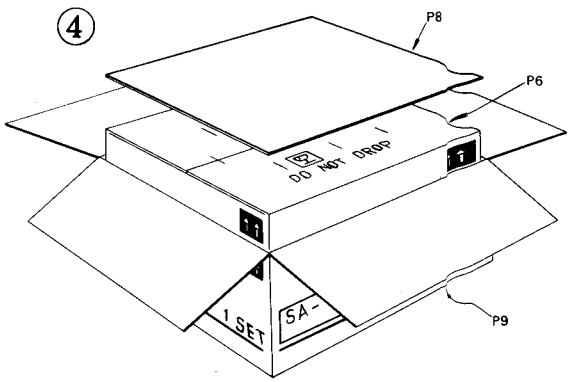
Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
		ACCESSORIES		
A1	SSAA1	Cord, FM Antenna	1	Y
A2	XBAS1A3001	Fuse, Circuit Protection [3A]	4	X
A3	SPR111-1	Record, CD-4 Test	1	Y
A4	RJP16AS	Plug, AC Power Source	1	Y
A5	RJP17AS	Plug, AC Power Source	1	Y
A6	RJP5	Pin Plug	8	Y
		PACKING PARTS		
P1	SPPA30	Soft Cover	1	Ⓝ Z
	SPEA3	Cover, AC Plug	1	Z
P2	SPHA6008	Polyethylene Sheet	1	Z
P3	SPSA63	Pad, Upper & Lower	2	Ⓝ Z
P4	SPSA61	Pad, Inside	1	Ⓝ Z
P5	SPSA62	Pad, Right & Left Side	2	Ⓝ Z
P6	SPNA150A	Carton Box [Inner]	1	Ⓝ Z
P7	SOFA160	Printed Matter, Complete	1	Ⓝ Y
	SQXA5102	Instructions Book (Order SQFA160)	(1)	
P8	SPSA71	Pad, Carton Box	1	Ⓝ Z
P9	SPGA232A	Carton Box [Outer]	1	Ⓝ Z

■ PACKINGS









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